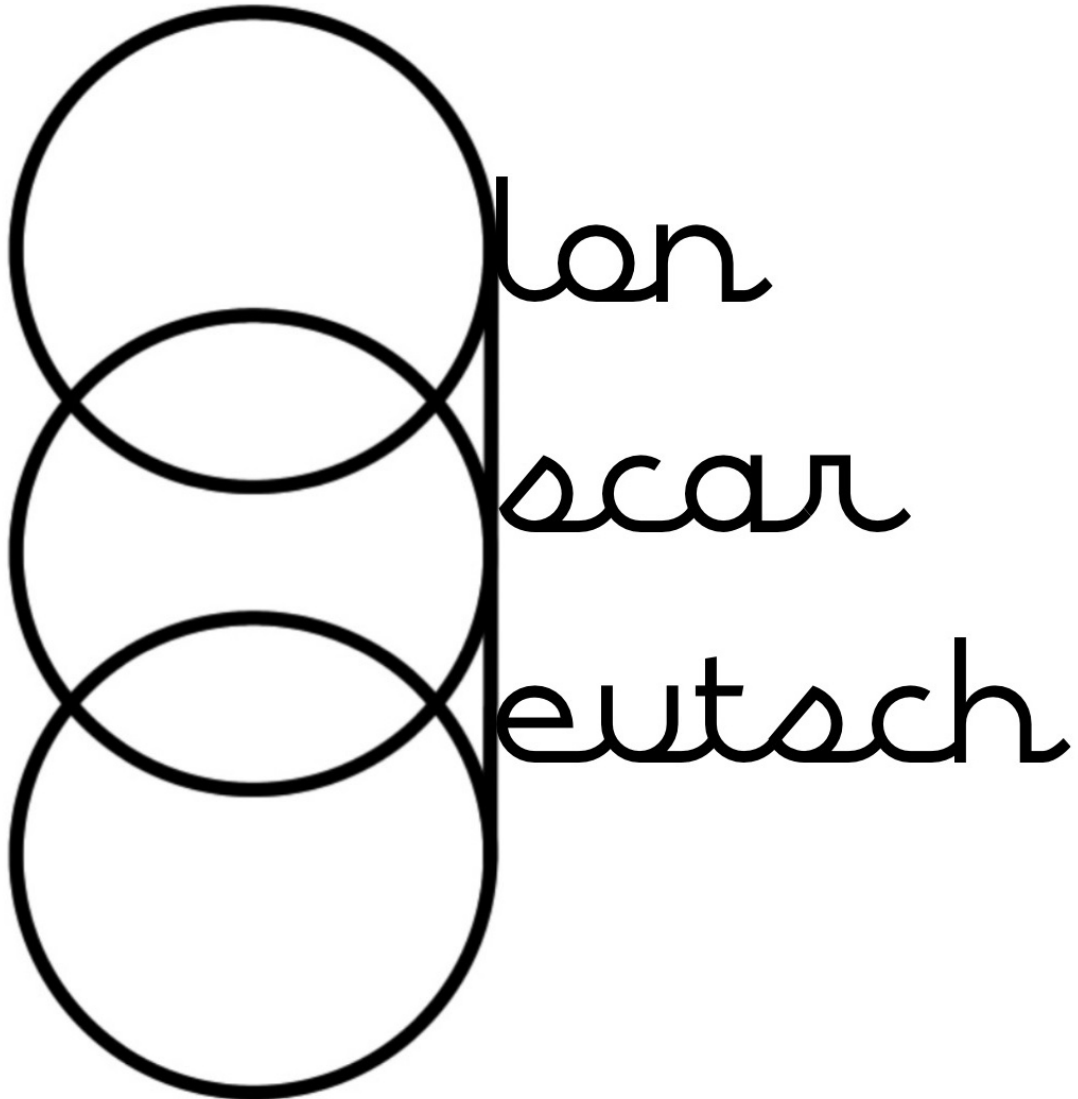


**THE
COMPLETE
WORKS
OF A. O.
DEUTSCH**

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ISBN: 978-1-71679-045-4







Alon Oscar Deutsch
Introduction to Cognietrics

On the Psychology of Philosophy

An Introduction to Cognietrics, 2nd Edition (Digital)

by Alon Oscar Deutsch

“...Socionics and spin-off Cognietrics provide leverage which
could possibly be adapted toward the enhancement of information flow...”
– Marc Carson, Livingry and Building Technological Leverage to Change the World

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A Note From The Author

I did not include an index with the digital edition, but if you have questions about a capitalized term then I encourage you to use the search function, which also serves this purpose.

Dedication

This book is dedicated to my family with love.

Acknowledgments

I would like to thank Vered Deutsch for editing this book during her vacation time, and I would like to thank Mikey Goldenberg for using his degree in philosophy to help me address some of the epistemological concepts in this book.

Preface

I wrote my first book, *An Introduction to Cognietrics*, in order to bring extended meaning to the suppositions encountered in the definition of the Myers-Briggs types. Though many books have been written on this subject, I felt that few had unifying ideas or were otherwise able to inspire a coherent, philosophical discussion of its implications among readers. In writing this book I was finally able to redefine and then derive the fundamental epistemological concepts on which our experience of reality is based using underlying cognitive constructs, ultimately merging psychology with philosophy itself, and even discuss ideas that I had not previously encountered, such as the definition of knowledge in terms of Jungian dichotomies, the mathematical symmetry of philosophy, the principles on which the paradoxical Copenhagen Interpretation of quantum mechanics is founded, and the differences between induction and deduction, patterns and concepts, discovery and invention, cause and effect, and statistics and determinism. These ideas appear repeatedly in the philosophical literature - for instance, an example of Cognietrics in epistemology is the following: on page 1 of *Introduction to Mathematical Philosophy*, Bertrand Russell states that ‘The distinction between mathematics and mathematical philosophy is one which depends upon the interest inspiring the research, and upon the stage which the research has reached.’ When one considers that due to attained importance, and given the change associated with stages, something reaches a stage not necessarily when one can begin to think differently about it but rather when he can begin to feel differently about it due to its own unchanging state, and that while research is inspired by logic interest is inspired by emotion, it is obvious that Russell is (perhaps unknowingly) referring to the Cognietric distinction between knowledge and understanding as outlined in my book; note that in the preface to *Our Knowledge of the External World*, which predates Carl Jung’s *Psychological Types* by 7 years, Russell tries to shed new light on the distinction between ‘realists and idealists’, not unlike the Jungian dichotomy of sensation vs. intuition. In this book I also show how the different personalities work together to accommodate novel ideas and recurring trends in an endless cycle as determined by the order of the strongest Jungian Cognitive Functions, and I describe how different

combinations of personality traits may manifest in each type. I provide research supporting the existence of mutually exclusive personality traits in accordance with the Myers-Briggs dichotomies, and explanations for the Jungian Cognitive Functions that I use to create a short test to aid in analyzing one's Jungian type. I also discuss theories of type development over time, and I provide background on previous typology theories such as Myers-Briggs and Socionics. I answer frequently asked questions on the nature, relevance, and justification of Jungian typology, and I discuss the benefit of mindfulness with respect to both of the values represented by each Myers-Briggs dichotomy. I must end by saying that I sincerely hope that this book brings you as much insight while reading it as it brought me while writing it, and I wish you the best of luck. - Alon Oscar Deutsch, Friday, November 4th, 2016

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Introduction

INTP, ISFP, ENFJ - what does it all mean? This book will show you what to expect when you come across one of these abbreviations. Drawing on references to epistemology, mathematics, physics, and even competing measures of intelligence, this book will explain how each Jungian type engages life.

Related Topics: Psychology, Typology, Personality, Jung, Myers-Briggs, Socionics

Why write a book?

After studying Jungian personality theories for many years, I wanted to clarify some inconsistencies between them and tell the world what it is I really have come to believe. The main idea in this book is that the behaviors defining the Jungian personalities can be derived from a combination of unique philosophical rationales which exist behind each one. Cognietrics is not meant to be a complete "Lexicon of the Psyche", but it is also not vague, and makes specific predictions based on my own personal experiences and impressions of different people. I have tried to make Cognietrics the most accurate, precise, and revealing representation of the best ideas (including many of my own) commonly found in analogous personality models. I hope that this book will not only allow you to understand yourself, but also allow you to understand others, so that you may find common interests or at least learn from each other.

As for self-development, there are many that say that the point of personality theory is to identify Weaknesses to improve them on the path to self-actualization and becoming a well-rounded person, such that less conscious Functions become more developed later in life. There are some who say that if you

know your Strengths you can work on them and achieve more than if you try to compensate Weaknesses, which aren't likely to improve to the point of being competitive with others having them as Strengths. I believe that any work that is done to improve the use of any Function is beneficial, but I believe that using a balanced combination of Weak and Strong Functions works best.

Background

The Myers-Briggs Type Indicator (MBTI) was developed during and after WWII by Isabel Briggs-Myers and her mother Katherine Cook-Briggs. It was based on the earlier work of Carl Gustav Jung and was intended to help distribute different jobs in an efficient manner according to each job's suitability for a given psychological Preference.

Completion of the MBTI results in one of sixteen Types, each with a unique four-letter designation, with each letter representing a Preference.

The first letter can be E (Extraverted) or I (Introverted). Extraverts gain energy in social situations and lose it while alone, the opposite is true for Introverts. According to John Gabrieli of Stanford University, correlation exists between extraversion and the activation of the amygdala that occurs when happy faces are viewed. (<http://news.stanford.edu/news/2002/july10/sciencegab-710.html>)

The second letter can be S (Sensing) or N (iNtuiting). Sensors are realistic and live in the moment, whereas iNtuitives are imaginative and live in the future. According to Stefania Ashby of Brigham Young University, brain areas controlling imagination and memory do not overlap. (<http://www.wired.co.uk/article/neuroscience-of-imagination>)

The third letter can be T (Thinking) or F (Feeling). Thinkers mostly use logic to make decisions and Feelers mostly use their emotions. According to Anthony Jack of Case Western Reserve University, evidence suggests that empathy and thought repress each other's use.

(<https://www.sciencedaily.com/releases/2012/10/121030161416.htm>)

The fourth letter can be P (Perceiver) or J (Judger). Perceivers like to leave their options open (Pe) and tend to improvise spontaneously (Ji), and Judgers like to make decisions early (Je) and tend to plan conditionally (Pi). According to Isabel Briggs-Myers, Perceivers primarily iNtuit or Sense in an extraverted way, and Judgers primarily Think or Feel in an extraverted way, depending on which second and third letters are chosen.

Eighty-nine of the Fortune 100 companies now use the MBTI in some form, "to maximize individual and team effectiveness from entry to executive levels". (<https://www.cpp.com/products/mbti/index.aspx>)

Usually the best Relationship is said to occur between Types that have completely opposite letter designations (since opposites can attract).

Websites such as celebritytypes.com have been known to guess the personalities of famous cultural icons. Others try to determine the best travel destination for each personality.

(http://www.huffingtonpost.com/kali-rogers/which-us-city-you-should-live-in-based-off-your-myers-briggs-results_b_8400956.html)

The rarest Type in the population as determined by the Myers Briggs Foundation is the INFJ at 1.46%. The most common Type is the ISFJ at 13.8%. (<http://www.statisticbrain.com/myers-briggs-statistics/>)

The Type that has the highest ratio of representation in gifted classes to representation in normal classes as determined by Ugar Sak of the University of Arizona is the INTP at 3.40:1.
(home.anadolu.edu.tr/~usak/documents/PsychologicalTypesofGiftedAdolescentspublishedinJSGE.pdf)

The Type that tends to earn the most as determined by Truity Psychometrics is the ESTJ with an average of \$77,000/year. (<http://tech.co/myers-briggs-personality-type-likely-earn-higher-income-2015-04>)

Isabel Myers connected her typology to Carl Jung's system by ascribing the pairs of each of his Functions to a Type:

TJ uses extraverted thinking, or Te

TP uses introverted thinking, or Ti

FJ uses extraverted feeling, or Fe

FP uses introverted feeling, or Fi

SP uses extraverted sensing, or Se

SJ uses introverted sensing, or Si

NP uses extraverted intuiting, or Ne

NJ uses introverted intuiting, or Ni

A Lithuanian offshoot called Socionics, founded by Aushra Augusta, adds depth to the connection between Jung and Myers-Briggs - Types whose first or second Function is Fi or Te are considered to be Serious whereas Types whose first or second Function is Ti or Fe are considered to be Merry (Curious in Cognitrics), and Types whose first or second Function is Si or Ne are considered to be Reasonable whereas Types whose first or second Function is Ni or Se are considered to be Resolute.

Critics of the MBTI have shown that often the resulting Type description is vague or doesn't match the test taker, or the test gives a result that is in the margin between multiple Types, or different results are produced when the test is taken multiple times.

*The SCFT (Short Cognietrics Functions Test), unlike the MBTI, eliminates marginal percentages by reducing the number of questions asked as much as possible, and eliminates faulty Type descriptions (invalidating the Forer effect) by focusing on the polarization of specific Jungian Cognitive Functions from which the descriptions are actually derived, rather than combinations of the more vague Myers-Briggs Preferences; however, because the Functions are not mutually exclusive like the Preferences, there is a chance that Functions which are important to the test taker, though not the Functions indicated by the MBTI, will be selected. In this case, the chosen MBTI Functions may indicate which Personas are typically used by the test taker; it is possible that test takers will find that their SCFT Type result is more accurate than their MBTI Type result! As for taking the test again after some time has passed - though people change, their most general tendencies usually do not, which is why certain characteristics of personality can be identified at a very early age. Studying the Types will provide the vocabulary necessary for increased self-awareness, comparison, and Type identification. The short test (SCFT) following the FAQ will give you an idea about your Cognietrics Type; however, it will not give you a conclusive argument - an ENTJ who works as a medical doctor may get a different result than an ENTJ who works as a stock broker. It is therefore necessary to compare the Type Profiles before making a decision to determine Type.

Frequently Asked Questions

Did I pass?

There are no wrong answers! Different combinations of different letters yield different advantages, but remember - each four-letter code represents a set of Preferences, not aptitudes.

What if I don't believe that everyone in the world fits neatly into only sixteen Types?

The MBTI is by no means a complete description of personality, but the dichotomies that represent the Preferences are mutually exclusive and so, due to widespread influence, account for the underpinnings of every preinclination; people of the same Type can be fundamentally different and still share these Traits, however, Cognitrics only makes inferences based upon the categories described in this book.

What if I think that I am a mix of Types, and that I use all of the Preferences either together or at different times?

Cognitrics certainly expects people to use all eight Functions, but a continuous divergence in usage is expected in order to prevent confusion. It is unlikely that a lack of Preferences will cause a perfect balance, because people are noticeably different in this regard, and their primary motives and behaviors by definition are indicative themselves of imbalance between the Functions. On some defunct Socionics websites, Jung was quoted as saying "As experience shows, it is next to impossible - as a result of unfavourable conditions - that somebody could develop all his functions at the same time. Social demand bring to more differentiation (developing) by a person that of his functions where he is more talented by nature or which gives him the most evident real means to achieve social success. A person very often,

almost regularly, wholly identifies himself with the function placed in the most favourable conditions and due to that the most developed one. This way psychological types are constructed."

So what is the point of Jungian Cognitive Functions and their Temperaments? Isn't Sensing just Sensing, and Feeling just Feeling?

The Functions were Jung's actual original contributions to personality typology, and were developed further by Isabel Myers, the Socionicists, and others. The idea is that the Suggestion (most conscious perceiving Function) and Meaning (most conscious judging Function) can be introverted or extraverted (more specifically, one is introverted and the other is extraverted; for Judgers the Meaning is extraverted and for Perceivers the Suggestion is extraverted). The Function Temperaments also determine each Type's Values. Here is a story to illustrate the point: A psychologist asks a man to look at a painting and describe what he sees. The man says "I see a tree and a lake". The psychologist then asks "What color is the bird in the tree?", and the man responds "Oh, I didn't even notice the bird until you mentioned it". This example proves that even something as seemingly elementary as Sensation can be affected by preinclinations, which can vary from person to person. The fact is, the Preferences confer different advantages depending on whether the information processed is meant to be shared or hidden. In addition, as with any sort of Strength, some people will excel at one aspect and others will excel in other ways. Judgers are more comfortable sharing judgments and hiding perceptions, and Perceivers are more comfortable sharing perceptions and hiding judgments; there is no reason to suppose that the Temperament of every Function in the Consciousness Hierarchy (order of the Functions) should follow the Exertion (Introverted or Extraverted) of the Cognitrics Type, which only determines the Exertion of the Referential, Experimental, Avoidant, and Aggressive Functions. In general, extraverted Functions are multiply-applicable (or objective) and represent a breadth of activity, whereas introverted Functions are self-referential (or subjective) and represent a depth of activity. Everyone has in their first and second Functions a judging Function for using what they already Know and Understand and a perceiving

Function for dealing with new information that is Inducted or Deduced; as I said before, one Function is always extraverted and the other is always introverted - this provides stability and balance to the Type.

If as of yet there is no data or other veracity to support the predictions made by Cognietrics for each Type, then what is the point of Cognietrics?

Cognietrics determines the connections between the Myers-Briggs Preferences and the Types that they describe, but it is just an investigative foray into a much deeper subconscious that we have not yet noticed. Albert Einstein said, in *Cosmic Religion: With Other Opinions and Aphorisms* (1931), "Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to evolution. It is, strictly speaking, a real factor in scientific research." Unfortunately, the tools are not yet available for this kind of empirical study...however, just because something begins as a dream, it does not mean that it won't one day inspire something of practical value. If it weren't for Marcel Grossmann introducing Einstein to the mathematics he needed to make possible general relativity (as described by Manfred Eigen in *From Strange Simplicity to Complex Familiarity* (2013)), the theory would remain nothing but a daydream. Instead it was verified by many experiments including the Pound-Rebka experiment in 1959. Especially when first learning about Jungian personality, self-awareness can be a huge problem for many people - do I do this or that? The actual tendencies may be hard to distinguish at first, but with study and comparison to others it is possible to make sense of the theory. Cognietrics is a theory that seeks to explain the interaction of a lot of different basic elements and their collective effects. In Cognietrics, the basic elements are the psychological entities called the Jungian Cognitive Functions.

Test

Short Cognietrics Functions Test

1. I agree that:

- a. I enjoy validating perspectives.
- b. I always leave a memorable impression.
- c. I tend to be very aware of the chances for success.
- d. I like to keep track of things.

* if a or b go to #2a, if c or d go to #2b

2a. I agree that:

- e. I must honor my beliefs.
- f. I can make complex things seem simple.

*go to #3

2b. I agree that:

g. I am good at making others feel welcome.

h. I usually notice obscure opportunities.

*go to #3

3. I agree that:

i. I gain energy when interacting with other people.

j. I need to spend time resting alone.

Answer Key:

aei ENFP

aej INFP

afi ENTP

afj INTP

bei ESFP

bej ISFP

bfi ESTP

bfj ISTP

cgi ENFJ

cgj INFJ

chi ENTJ

chj INTJ

dgi ESFJ

dgj ISFJ

dhi ESTJ

dhj ISTJ

"When an inner situation is not made conscious, it appears outside as fate."

- Carl Gustav Jung

"Everything that irritates us about others can lead us to an understanding of ourselves."

- Carl Gustav Jung

"We may think that we fully control ourselves. However, a friend can easily reveal something about us that we have absolutely no idea about."

- Carl Gustav Jung

Type Profiles

The following Type Profiles will give you a description of each Cognietrics Type.

ENFP

Exertion - Extraverted

Suggestion - iNtuiting

Meaning - Feeling

Reaction - Perceiver

Value - Counsel

Nature - Associater

Character - Reformer

Temperament - Explorer

Manner - Idealist

Inference - Deduction

Justification - Knowledge

Role - Guide

Mentality - Conceptual

Primary Field - Theorist

Identity - Application

Mask - Adaptation

Secondary Field - Expert

Charisma - Research

Inspiration - Standardization

Consciousness Hierarchy -

Referential as Counterfactual (Ne)

Responsible as Critical (Fi)

Experimental as Strategic (Te)

Hopeful as Optimizing (Si)

Avoidant as Scouting (Se)

Rebellious as Aetiological (Ti)

Aggressive as Relating (Fe)

Depressive as Statistical (Ni)

Demeanors:

ENXP: People with Referential Ne come from a perfect world, and are always trying to shape this one in their image.

EXFP: People with Responsible Fi say what's on their mind, trying to shock people to action.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

Relationship Ratings -

ISTJ - 13

ESTJ - 12

ENFP - 11

INFP - 10

ISFJ - 9

ENTP - 8

INTJ - 7

ESFP - 6

ESFJ - 5

ENTJ - 5

INTP - 4

ISFP - 4

INFJ - 3

ENFJ - 2

ESTP - 1

ISTP - 0

ENTP

Exertion - Extraverted

Suggestion - iNtuiting

Meaning - Thinking

Reaction - Perceiver

Value - Negotiation

Nature - Associater

Character - Administrator

Temperament - Explorer

Manner - Analyst

Inference - Deduction

Justification - Understanding

Role - Investigator

Mentality - Patterned

Primary Field - Prospector

Identity - Proof

Mask - Priority

Secondary Field - Philosopher

Charisma - Promotion

Inspiration - Thesis

Consciousness Hierarchy -

Referential as Counterfactual (Ne)

Responsible as Aetiological (Ti)

Experimental as Relating (Fe)

Hopeful as Optimizing (Si)

Avoidant as Scouting (Se)

Rebellious as Critical (Fi)

Aggressive as Strategic (Te)

Depressive as Statistical (Ni)

Demeanors:

ENXP: People with Referential Ne come from a perfect world, and are always trying to shape this one in their image.

EXTP: People with Responsible Ti try to make sense of the world around them and be helpful.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

Relationship Ratings -

ISFJ - 13

ESFJ - 12

ENTP - 11

INTP - 10

ISTJ - 9

ENFP - 8

INFJ - 7

ESTP - 6

ESTJ - 5

ENFJ - 5

INFP - 4

ISTP - 4

INTJ - 3

ENTJ - 2

ESFP - 1

ISFP - 0

ESFP

Exertion - Extraverted

Suggestion - Sensing

Meaning - Feeling

Reaction - Perceiver

Value - Skepticism

Nature - Observer

Character - Reformer

Temperament - Explorer

Manner - Guardian

Inference - Induction

Justification - Knowledge

Role - Investigator

Mentality - Patterned

Primary Field - Prospector

Identity - Priority

Mask - Proof

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Inspiration - Promotion

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Demeanors:

ESXP: People with Referential Se like to motivate others to be their best.

EXFP: People with Responsible Fi say what's on their mind, trying to shock people to action.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

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INTJ - 13

ENTJ - 12

ESFP - 11

ISFP - 10

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ISTJ - 7

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ENFJ - 5

ESTJ - 5

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INFP - 4

ISFJ - 3

ESFJ - 2

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INTP - 0

ESTP

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Suggestion - Sensing

Meaning - Thinking

Reaction - Perceiver

Value - Advocacy

Nature - Observer

Character - Administrator

Temperament - Explorer

Manner - Inspector

Inference - Induction

Justification - Understanding

Role - Guide

Mentality - Conceptual

Primary Field - Theorist

Identity - Adaptation

Mask - Application

Secondary Field - Expert

Charisma - Standardization

Inspiration - Research

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Aggressive as Strategic (Te)

Depressive as Optimizing (Si)

Demeanors:

ESXP: People with Referential Se like to motivate others to be their best.

EXTP: People with Responsible Ti try to make sense of the world around them and be helpful.

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Depressive as Critical (Fi)

Demeanors:

EXFJ: People with Referential Fe want to teach the world their ethics.

ENXJ: People with Responsible Ni are very foresightful, and try to support the best probability for a positive outcome.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

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ISTP - 13

ESTP - 12

ENFJ - 11

INFJ - 10

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Experimental as Scouting (Se)

Hopeful as Critical (Fi)

Avoidant as Relating (Fe)

Rebellious as Optimizing (Si)

Aggressive as Counterfactual (Ne)

Depressive as Aetiological (Ti)

Demeanors:

EXTJ: People with Referential Te may go out of their way to correct someone.

ENXJ: People with Responsible Ni are very foresightful, and try to support the best probability for a positive outcome.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

Relationship Ratings -

ISFP - 13

ESFP - 12

ENTJ - 11

INTJ - 10

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Demeanors:

EXFJ: People with Referential Fe want to teach the world their ethics.

ESXJ: People with Responsible Si try to refine their efforts and keep people consistently focused.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

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INTP - 13

ENTP - 12

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ENFP - 5

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ISTJ - 4

ISFP - 3

ESFP - 2

ENTJ - 1

INTJ - 0

ESTJ

Exertion - Extraverted

Suggestion - Sensing

Meaning - Thinking

Reaction - Judger

Value - Counsel

Nature - Observer

Character - Administrator

Temperament - Persuader

Manner - Inspector

Inference - Deduction

Justification - Knowledge

Role - Investigator

Mentality - Patterned

Primary Field - Expert

Identity - Research

Mask - Standardization

Secondary Field - Theorist

Charisma - Application

Inspiration - Adaptation

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INFP - 13

ENFP - 12

ESTJ - 11

ISTJ - 10

ISFP - 9

ENTJ - 8

INTP - 7

ESFJ - 6

ESFP - 5

ENTP - 5

INTJ - 4

ISFJ - 4

ISTP - 3

ESTP - 2

ENFJ - 1

INFJ - 0

INFP

Exertion - Introverted

Suggestion - iNtuiting

Meaning - Feeling

Reaction - Perceiver

Value - Counsel

Nature - Observer

Character - Administrator

Temperament - Reflector

Manner - Idealist

Inference - Induction

Justification - Understanding

Role - Scientist

Mentality - Patterned

Primary Field - Prospector

Identity - Standardization

Mask - Research

Secondary Field - Philosopher

Charisma - Adaptation

Inspiration - Application

Consciousness Hierarchy -

Referential as Critical (Fi)

Responsible as Counterfactual (Ne)

Experimental as Optimizing (Si)

Hopeful as Strategic (Te)

Avoidant as Aetiological (Ti)

Rebellious as Scouting (Se)

Aggressive as Statistical (Ni)

Depressive as Relating (Fe)

Demeanors:

IXFP: People with Referential Fi will go out of their way to appear unique, mysterious, and interesting.

INXP: People with Responsible Ne are interested in cultivating potential alternatives, and spend time comparing ideas.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

Relationship Ratings -

ESTJ - 13

ISTJ - 12

INFP - 11

ENFP - 10

ENTJ - 9

ISFP - 8

ESFJ - 7

INTP - 6

INTJ - 5

ISFJ - 5

ESFP - 4

ENTP - 4

ENFJ - 3

INFJ - 2

ISTP - 1

ESTP - 0

INTP

Exertion - Introverted

Suggestion - iNtuiting

Meaning - Thinking

Reaction - Perceiver

Value - Negotiation

Nature - Observer

Character - Reformer

Temperament - Reflector

Manner - Analyst

Inference - Induction

Justification - Knowledge

Role - Engineer

Mentality - Conceptual

Primary Field - Theorist

Identity - Thesis

Mask - Promotion

Secondary Field - Expert

Charisma - Priority

Inspiration - Proof

Consciousness Hierarchy -

Referential as Aetiological (Ti)

Responsible as Counterfactual (Ne)

Experimental as Optimizing (Si)

Hopeful as Relating (Fe)

Avoidant as Critical (Fi)

Rebellious as Scouting (Se)

Aggressive as Statistical (Ni)

Depressive as Strategic (Te)

Demeanors:

IXTP: People with Referential Ti want to reframe paradoxes and replace obsolete constructs.

INXP: People with Responsible Ne are interested in cultivating potential alternatives, and spend time comparing ideas.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

Relationship Ratings -

ESFJ - 13

ISFJ - 12

INTP - 11

ENTP - 10

ENFJ - 9

ISTP - 8

ESTJ - 7

INFP - 6

INFJ - 5

ISTJ - 5

ESTP - 4

ENFP - 4

ENTJ - 3

INTJ - 2

ISFP - 1

ESFP - 0

ISFP

Exertion - Introverted

Suggestion - Sensing

Meaning - Feeling

Reaction - Perceiver

Value - Skepticism

Nature - Associater

Character - Administrator

Temperament - Reflector

Manner - Guardian

Inference - Deduction

Justification - Understanding

Role - Engineer

Mentality - Conceptual

Primary Field - Theorist

Identity - Promotion

Mask - Thesis

Secondary Field - Expert

Charisma - Proof

Inspiration - Priority

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Referential as Critical (Fi)

Responsible as Scouting (Se)

Experimental as Statistical (Ni)

Hopeful as Strategic (Te)

Avoidant as Aetiological (Ti)

Rebellious as Counterfactual (Ne)

Aggressive as Optimizing (Si)

Depressive as Relating (Fe)

Demeanors:

IXFP: People with Referential Fi will go out of their way to appear unique, mysterious, and interesting.

ISXP: People with Responsible Se make others aware of important information and get reactions from them.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

Relationship Ratings -

ENTJ - 13

INTJ - 12

ISFP - 11

ESFP - 10

ESTJ - 9

INFP - 8

ENFJ - 7

ISTP - 6

ISTJ - 5

INFJ - 5

ENFP - 4

ESTP - 4

ESFJ - 3

ISFJ - 2

INTP - 1

ENTP - 0

ISTP

Exertion - Introverted

Suggestion - Sensing

Meaning - Thinking

Reaction - Perceiver

Value - Advocacy

Nature - Associater

Character - Reformer

Temperament - Reflector

Manner - Inspector

Inference - Deduction

Justification - Knowledge

Role - Scientist

Mentality - Patterned

Primary Field - Prospector

Identity - Research

Mask - Standardization

Secondary Field - Philosopher

Charisma - Application

Inspiration - Adaptation

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Referential as Aetiological (Ti)

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Depressive as Strategic (Te)

Demeanors:

IXTP: People with Referential Ti want to reframe paradoxes and replace obsolete constructs.

ISXP: People with Responsible Se make others aware of important information and get reactions from them.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

Relationship Ratings -

ENFJ - 13

INFJ - 12

ISTP - 11

ESTP - 10

ESFJ - 9

INTP - 8

ENTJ - 7

ISFP - 6

ISFJ - 5

INTJ - 5

ENTP - 4

ESFP - 4

ESTJ - 3

ISTJ - 2

INFP - 1

ENFP - 0

INFJ

Exertion - Introverted

Suggestion - iNtuiting

Meaning - Feeling

Reaction - Judger

Value - Advocacy

Nature - Observer

Character - Administrator

Temperament - Evaluator

Manner - Idealist

Inference - Deduction

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Hopeful as Scouting (Se)

Avoidant as Optimizing (Si)

Rebellious as Strategic (Te)

Aggressive as Critical (Fi)

Depressive as Counterfactual (Ne)

Demeanors:

INXJ: People with Referential Ni are always searching for new projects, making things that will last a long time.

IXFJ: People with Responsible Fe want everyone to feel good and have a good time.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

Relationship Ratings -

ESTP - 13

ISTP - 12

INFJ - 11

ENFJ - 10

ESFP - 9

INTJ - 8

ENTP - 7

ISFJ - 6

ISFP - 5

INTP - 5

ENTJ - 4

ESFJ - 4

ENFP - 3

INFP - 2

ISTJ - 1

ESTJ - 0

INTJ

Exertion - Introverted

Suggestion - iNtuiting

Meaning - Thinking

Reaction - Judger

Value - Skepticism

Nature - Observer

Character - Reformer

Temperament - Evaluator

Manner - Analyst

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Responsible as Strategic (Te)

Experimental as Critical (Fi)

Hopeful as Scouting (Se)

Avoidant as Optimizing (Si)

Rebellious as Relating (Fe)

Aggressive as Aetiological (Ti)

Depressive as Counterfactual (Ne)

Demeanors:

INXJ: People with Referential Ni are always searching for new projects, making things that will last a long time.

IXTJ: People with Responsible Te are goal-oriented, image-conscious, and want to maximize output.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

Relationship Ratings -

ESFP - 13

ISFP - 12

INTJ - 11

ENTJ - 10

ESTP - 9

INFJ - 8

ENFP - 7

ISTJ - 6

ISTP - 5

INFP - 5

ENFJ - 4

ESTJ - 4

ENTP - 3

INTP - 2

ISFJ - 1

ESFJ - 0

ISFJ

Exertion - Introverted

Suggestion - Sensing

Meaning - Feeling

Reaction - Judger

Value - Negotiation

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Experimental as Aetiological (Ti)

Hopeful as Counterfactual (Ne)

Avoidant as Statistical (Ni)

Rebellious as Strategic (Te)

Aggressive as Critical (Fi)

Depressive as Scouting (Se)

Demeanors:

ISXJ: People with Referential Si like to multi-task and try out different customizations.

IXFJ: People with Responsible Fe want everyone to feel good and have a good time.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

Relationship Ratings -

ENTP - 13

INTP - 12

ISFJ - 11

ESFJ - 10

ENFP - 9

ISTJ - 8

ESTP - 7

INFJ - 6

INFP - 5

ISTP - 5

ESTJ - 4

ENFJ - 4

ESFP - 3

ISFP - 2

INTJ - 1

ENTJ - 0

ISTJ

Exertion - Introverted

Suggestion - Sensing

Meaning - Thinking

Reaction - Judger

Value - Counsel

Nature - Associater

Character - Reformer

Temperament - Evaluator

Manner - Inspector

Inference - Induction

Justification - Understanding

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Primary Field - Philosopher

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Mask - Application

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Inspiration - Research

Consciousness Hierarchy -

Referential as Optimizing (Si)

Responsible as Strategic (Te)

Experimental as Critical (Fi)

Hopeful as Counterfactual (Ne)

Avoidant as Statistical (Ni)

Rebellious as Relating (Fe)

Aggressive as Aetiological (Ti)

Depressive as Scouting (Se)

Demeanors:

ISXJ: People with Referential Si like to multi-task and try out different customizations.

IXTJ: People with Responsible Te are goal-oriented, image-conscious, and want to maximize output.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

Relationship Ratings -

ENFP - 13

INFP - 12

ISTJ - 11

ESTJ - 10

ENTP - 9

ISFJ - 8

ESFP - 7

INTJ - 6

INTP - 5

ISFP - 5

ESFJ - 4

ENTJ - 4

ESTP - 3

ISTP - 2

INFJ - 1

ENFJ - 0

Demeanors

IXFP: People with Referential Fi will go out of their way to appear unique, mysterious, and interesting.

EXFP: People with Responsible Fi say what's on their mind, trying to shock people to action.

EXFJ: People with Referential Fe want to teach the world their ethics.

IXFJ: People with Responsible Fe want everyone to feel good and have a good time.

IXTP: People with Referential Ti want to reframe paradoxes and replace obsolete constructs.

EXTP: People with Responsible Ti try to make sense of the world around them and be helpful.

EXTJ: People with Referential Te may go out of their way to correct someone.

IXTJ: People with Responsible Te are goal-oriented, image-conscious, and want to maximize output.

ISXJ: People with Referential Si like to multi-task and try out different customizations.

ESXJ: People with Responsible Si try to refine their efforts and keep people consistently focused.

ESXP: People with Referential Se like to motivate others to be their best.

ISXP: People with Responsible Se make others aware of important information and get reactions from them.

INXJ: People with Referential Ni are always searching for new projects, making things that will last a long time.

ENXJ: People with Responsible Ni are very foresightful, and try to support the best probability for a positive outcome.

ENXP: People with Referential Ne come from a perfect world, and are always trying to shape this one in their image.

INXP: People with Responsible Ne are interested in cultivating potential alternatives, and spend time comparing ideas.

*The less conscious Attitudes are (even in their most defined state) Experimental, so they are typically not discussed.

Theory

My model agrees with John Beebe that Weak & Positive Functions are higher on the Consciousness Hierarchy than Weak & Negative Functions, but it also agrees with Aushra Augusta that Strong & Negative Functions are at the bottom. Since this theory differs from its predecessors, I have decided to name it “Cognietrics”.

The Strong Functions are at the top and bottom of the Consciousness Hierarchy and represent the most active regions of the brain. The Weak Functions are in the middle.

Among ENFXs, it is easy to decide that the Judger with the Referential feeling is more of a Feeler than an iNtuit, but among INFXs, which is which? The truth is that it is more complicated - the INFJ will excel at Feeling because it has been shaped by external forces, but will actually do more iNtuiting (and about more things) than Feeling (mostly to support that Feeling) though it will happen behind-the-scenes. This type of hidden preparation using the Referential Function is what makes Introverts seem mysterious, and may in fact contribute to their often unique perspectives (while allowing IXXPs to judge what to perceive and IXXJs to perceive what to judge beforehand, instead of engaging in direct, face-value judgment or perception as an Extrovert would).

The Function Temperaments cycle down the Consciousness Hierarchy for the Positive Attitudes and begin again the same way for the Negative Attitudes. For IXXJ (Evaluator) the order is Pi-Je-Ji-Pe. For IXXP (Reflector) the order is Ji-Pe-Pi-Je. For EXXJ (Persuader) the order is Je-Pi-Pe-Ji. For EXXP (Explorer) the order is Pe-Ji-Je-Pi. The reason for this is that the last letter of the designator determines which of the Demeanors is extraverted, rather than Referential (the Suggestion, Sensing or iNtuiting, is a form of perception, and the Meaning, Thinking or Feeling, is a form of judgment); Myers is credited with interpreting Jung when he said, in *Psychological Types* (1921), “[the] most differentiated function is

always employed in an extraverted way”. I believe that this is due to social pressures as well as public identification with oneself; not having a conscious Reaction Function also allows Introverts to hide their cognitive processes and stay focused on goals, and may be part of the cause of some of their Introverted behaviors. On the other hand, having a conscious Reaction Function allows Extraverts to deal with the situation at hand as directly and efficiently as possible. When something happens, the extraverted Function provides a Reaction that is concise and useful in social situations - Perceivers can quickly check how things are developing if they are Scouting or how things could be developing if they are Counterfactual; Judgers can quickly check how to take advantage of something if they are Strategic or how to support ethical standards if they are Relating. The introverted Function is used for the further consideration and gradual integration of the information. Functions that are not Reaction Functions (extraverted) are called Contemplation Functions (introverted). Extraverts have Reactions that are Referential, Experimental, Avoidant, and Aggressive. Introverts have Reactions that are Responsible, Hopeful, Rebellious, and Depressive.

When you are Hopeful about a Preference there must also be some aspects of it with which you are simultaneously Avoidant, however as you become Experimental by the use of a Preference you will find other ways in which you are also Rebellious. Being Responsible allows you to become so habituated to a Preference that you become increasingly Aggressive to other facets of it; however, when you are so engrossed in a Preference that you are Referential, you may become otherwise Depressive to it.

The Positive Attitudes comprise the Ego and begin in Strength with being Hopeful, then as you become acquainted you become Experimental, then as experience builds you become Responsible, and eventually you start to become Referential.

The Negative Attitudes comprise the Id and begin in Strength with being Avoidant, then possibly you realize that you have become increasingly Rebellious, then you might grow Aggressive, and eventually you may find a way to become Depressive.

There is a Super-Ego, or Conscience, which is even more conscious than the Ego, and it contains information from immediate sources other than the Self (Ego and Id) about the Self (rather than what is processed inside the brain) to provide an idealization about life to seek as a goal (information from the Super-Ego may eventually become part of the Ego when it is no longer an immediate necessity and as the Self continues to shape itself over time). The Super-Id consists of the impressions of others about the Self which are unknown to the Self, but which have a cumulative effect on the Self just the same. As the Self ages, the Ego arranges itself to satisfy the Super-Ego just as the Id arranges itself to satisfy the Super-Id; this allows suspicions to balance confirmations when there is uncertainty. However, the Ego and Id also allow a controlled, ordered response to the Super-Ego and Super-Id. This allows the use of other avenues of information gathering and processing (as well as the independent operation of the mind), which then provides the ability for educated choices and free will.

Fear encourages the use of the Weak Functions, and Anger encourages the use of the Negative Functions.

Functions 1 & 2 - Not Angry or Fearful

Functions 3 & 4 - Fearful enough to take precautions

Functions 5 & 6 - Fearful and Angry enough to seek advice

Functions 7 & 8 - Angry enough to confront someone

Due to similar Function usage, the Relationships Rated 13 and 12 may give the appearance of the Type as a Frightened (though not Angry) version of the Self, which creates in the original Type a desire to comfort and offer support, which is beneficial for the Relationship.

The Super-Ego is in fact so conscious that in its use one may even become detached from his own Anger and wonder if he is the cause of Anger in others; it is ultimately responsible for Selflessness, and the Super-Id is responsible for Selfishness.

*Since the Positive Attitudes contain an extraverted perceiving Function and an introverted judging Function which allow Perceivers to deal with unavailable information, though the Super-Ego also provides them with available information about the Self, those Functions use available information as the impulse to check for information that was not available. The introverted judging Function uses it for developing convictions and the extraverted perceiving Function uses it to see if others need help. The Conscience is also processed by the introverted perceiving Function for self-awareness and the extraverted judging Function in order to make sure that others are following the rules; in the Id these Functions may try to compensate for a lack of available information by using it as an impulse to make more information available. Inventors have a Referential perceiving Function, which means that they use conscious, or available, information with a perceiving Function, which speculates rather than limits. This means that Inventors use available information to see what can be changed by speculation, causing them to Invent, whereas Discoverers use available information to see what is already present and can be limited, causing them to Discover.

Attitudes

EGO

Strong & Positive

Referential - this is the main Function, from which all References are made.

Responsible - this is the auxiliary Function, which is used to check the Referential Function.

Weak & Positive

Experimental - this Function serves as a basis for showing initiative.

Hopeful - this Function is used to search for new areas of interest.

ID

Weak & Negative

Avoidant - this Function is used to show disapproval.

Rebellious - this Function is used against conformity.

Strong & Negative

Aggressive - this Function is used as a show of force.

Depressive - this Function is used to accept grief and is the most repressed of all of the Functions.

Inclinations

The Referential and Hopeful Functions represent available information with which one is comfortable, and the Responsible and Experimental Functions represent available information with which one is uncomfortable. The Rebellious and Aggressive Functions represent unavailable information with which one is comfortable, and the Avoidant and Depressive Functions represent unavailable information with which one is uncomfortable. I believe that the Inclinations, along with the Function Strengths as they relate to the Justification and Inference, are how Type is initially determined.

Functions

Counterfactual (Ne, NP / Reasonable) - making novel comparisons, brainstorming, and envisioning hypothetical change.

Statistical (Ni, NJ / Resolute) - having reliable expectations and considering the unknowable for developing robust ideas (while Statistics are also Patterns, INFJs use Statistically-relevant Concepts).

Scouting (Se, SP / Resolute) - being showy and testing limitations.

Optimizing (Si, SJ / Reasonable) - monitoring resources and concentrating on performance.

Relating (Fe, FJ / Curious) - determining emotional states, sharing enthusiasm, and endorsing harmony.

Critical (Fi, FP / Serious) - having strong opinions and weighing different options to represent exclusive bonds.

Strategic (Te, TJ / Serious) - realizing effects and resulting implications for direct systemization and encouraging a state of prosperity.

Aetiological (Ti, TP / Curious) - finding causes using fundamental suppositions and identifying feedback loops.

Motivations

When introvertedly thinking (Ti), XXTPs have the ability to eventually simplify complex ideas under the right conditions, allowing them to delay decisions (Perceiver) to relieve stress (Curious).

When extravertedly feeling (Fe), XXFJs make people feel welcome, allowing them to make instant decisions (Judger) to relieve stress (Curious).

When introvertedly feeling (Fi), XXFPs feel they must honor their beliefs in the best possible way, allowing them to delay decisions (Perceiver) when there is a deep personal connection (Serious).

When extravertedly thinking (Te), XXTJs are aware of obscure opportunities, allowing them to make instant decisions (Judger) when there is a deep personal connection (Serious).

When introvertedly sensing (Si), XSXJs keep track of many applicable possibilities simultaneously, allowing them to make instant decisions (Judger) until an alternative is accepted (Reasonable).

When extravertedly intuiting (Ne), XNXPs validate perspectives, allowing them to delay decisions (Perceiver) until an alternative is accepted (Reasonable).

When introvertedly intuiting (Ni), XNXJs notice the window for each chance of success, allowing them to make instant decisions (Judger) which require commitment (Resolute).

When extravertedly sensing (Se), XSXPs filter for the most extravagant option in order to leave a memorable impression, allowing them to delay decisions (Perceiver) which require commitment (Resolute).

Temperaments

EXXPs are known as Explorers; they want to test their mental faculties in novel situations (introverted judging helping extraverted perceiving).

EXXJs are known as Persuaders; they want people to see things from their point of view (introverted perceiving helping extraverted judging).

IXXJs are known as Evaluators; they want to combine a few key points to interpret holistically (extraverted judging helping introverted perceiving).

IXXPs are known as Reflectors; they want to see an idea from every angle individually to preserve the purity of each impression (extraverted perceiving helping introverted judging).

EXXJs and IXXPs are both known as Discoverers; they try to seek methods to protect against a clouded judgment in order to have a clear view of all things.

EXXPs and IXXJs are both known as Inventors; they like to look for better means of accomplishment, even if they have to go against accepted theories by utilizing anomalous or untested phenomena.

The main difference between the two is that Inventors use synthetic propositions to consider everything as connected simultaneously using symbols in order to make use of something and Discoverers use analytic propositions to keep their ideas completely separate using strict definitions for use in the juxtaposition of competing interpretations. This is partially due to the powerful yet neglected influence of the Responsible Function, which causes Discoverers to want to perceive (combustion is turning a gear) to validate their a priori judgments (energy can be harnessed from combustion), or Discover, and Inventors to want to judge (the gear can be used to propel a vehicle) to validate their a posteriori perceptions (combustion is turning a gear), or Invent (Inventions may also precede Discoveries, such as occurred with the pregnancy risks Discovered after the Invention of thalidomide). Referential judgment is used as a form of limitation and is supported by Responsible speculation, and Referential perception is used as a form of speculation and is supported by Responsible limitation. A priori synthetic statements are typically used subconsciously by both Discoverers and Inventors in the third Attitude, and a posteriori analytic statements have been shown to be non-existent by Immanuel Kant. As Discoverers, EXXJs Judge shared information to interpret the actions of others and IXXPs Perceive relevant associations. As Inventors, EXXPs Perceive improvements in the relative abilities of others and IXXJs Judge optimal solutions. To use the story of the bird in the tree, one could not have Discovered it without a prior notion (a priori) assuming it was nearly the shape and color of the leaves of the tree, but once it has been Discovered it could be used to Invent anything without and even despite prior considerations (a posteriori), such as a carrier pigeon. In addition, to make the Discovery, scanning occurs for separately-

differentiated bird-like characteristics, but for the Invention, birds and letters must be combined together and then considered inter-symbolically and in conjunction with each other in order to explore the possibility for a postal network. Using the idea that Judgment is based on information that is available, and Perception is based on information that is not (which is why Perceivers seem to have an aptitude for fluid intelligence which is experience-independent, and Judgers seem to have an aptitude for crystallized intelligence which is experience-dependent (“Intelligence in Relation to Jung’s Personality Types”. Furnham, Moutafi, & Paltiel. 2005.)), it is possible to show that: EXXJs use available information to Discover (Referential limitation), which is useful for coming to conclusions; EXXPs use unavailable information to Invent (Referential speculation), which is useful for taking specific precautions; IXXJs use available information to Invent (Referential speculation), which is useful for being resourceful; IXXPs use unavailable information to Discover (Referential limitation), which is useful for developing new branches of study. Judgers focus on perceiving in a new way something that is often judged, and Perceivers on judging in a new way something that is often perceived, so that Discoverers focus on the judging aspects and Inventors focus on the perceiving aspects.

*Extraverts, seeking to impose order, are quick to judge (EJ) and slow to perceive (EP). Introverts, seeking a selective advantage, are quick to perceive (IJ) and slow to judge (IP). Explorers are not Discoverers because they have no preconceived bias and are not trying to confirm (Discover) an expectation.

Manners

STs are known as Inspectors, they want to make sure that quality is always what it should be; common professions include police detective.

NFs are known as Idealists, they want to improve the state of the world; common professions include court attorney.

SFs are known as Guardians, they want to preserve precious items and ideas; common professions include school teacher.

NTs are known as Analysts, they want to see how events can be connected; common professions include computer programmer.

STs and NFs are both known as Progressives, they want to bring about change, due to a scrutiny of reality coupled with an attachment to the imagination. They tend to be restless and proactive.

SFs and NTs are both known as Classicists, they want to fulfill present standards, due to an attachment to reality coupled with a scrutiny of the imagination. They tend to be relaxed and lenient.

Mentalities

Classicist-Discoverers and Progressive-Inventors have a Conceptual Mentality that deals with inclusive designs, due to the use of established insights for conjectural purposes.

Progressive-Discoverers and Classicist-Inventors have a Patterned Mentality that deals with recurring configurations, due to the use of conjectural insights for established purposes.

Types share a Mentality with Relationships Rated 13, 11, 3, 1, 5, and 4. A common Field occurs when the Referential Function of a Type is the Responsible Function of another Type whose Referential Function is not the Responsible Function of the first Type. This imbalance in the Consciousness Hierarchy tends to lead to a one-sided Relationship, which is why these Relationships are Rated the lowest of the ones that contain a shared Value. In Socionics this is known as "Supervision"; however, I believe that this is a bad name for the Relationship because the Type known in Socionics as the "Supervisor" in Cognitrics is held Responsible by the Responsible Function to the other Type's more active but less accountable Referential Function and so effectively becomes a supervisee. In reality however, there are instances where the Socionics "Supervisor" begins to hold accountable the actions of the Socionics "Supervisee" using the Socionics "Supervisee's" own Responsible Function. I think that due to the uniqueness of each Relationship, descriptions such as these are ultimately not good predictors of Relationships, which is why I choose to Rate them instead using shared Values as predictors of success. Because this Relationship exists when either the Referential or the Responsible Function is shared, two Types share the 4 Rating. The 5 Rating occurs for Types that have Functions that Complement in order those of either of the Types Rated 4. Other Relationships that share the Field include the identical Type and the Type of the same Temperament but opposite Manner.

Fields

Patterned Judgers - INTJ/ESTJ/ISFJ/ENFJ

Primary -Expert- Act based on Patterns to determine what they mean collectively and respond.

Secondary -Theorist- Delay action based on Concepts to check references.

Conceptual Judgers - ENTJ/INFJ/ESFJ/ISTJ

Primary -Philosopher- Act based on Concepts to choose methods suitable for accomplishing a goal.

Secondary -Prospector- Delay action based on Patterns to evaluate success and update worldview.

Patterned Perceivers - ENTP/ISTP/ESFP/INFP

Primary -Prospector- Delay action based on Patterns to mine data and seek rewards.

Secondary -Philosopher- Act based on Concepts to exploit resources using accepted methods.

Conceptual Perceivers - INTP/ENFP/ISFP/ESTP

Primary -Theorist- Delay action based on Concepts to simulate realities and respond accordingly.

Secondary -Expert- Act based on Patterns to pursue new avenues as they become available.

Experts and Theorists are Scholars; they stay well-informed about topics that interest them.

Philosophers and Prospectors are Visionaries; they have a direction for pragmatic development.

An ESFJ I interviewed likes to tell people her Philosophies about life, of which she has many. She believes that helping people is more important than materialism, that hard work pays ("there is no easy money"), and that you should be careful in what you say because "though people may not remember what you said, they will always remember how you made them feel".

An ESFP I know loves to look through garage sales to make old belongings into new Prospects; when he is on eBay he has a general idea of what he wants but likes to look around, searching for price Patterns in certain combinations of qualities that will result in the best deal.

An INTP had a Theory at his new job that he could save the company on water supplies. He looked around, confirmed his Theory, made the adjustments, and saved the company \$70,000. For this he was featured in the company newsletter.

I, an INTJ, like to have Expertise in the things that interest me. I have a phase where I like to learn everything I can about a subject, and then I move on to the next one. In the second grade it was meteorology and I learned everything about every kind of cloud (I would make charts of all of the features of all of the kinds of clouds to find Patterns among them, and so that I could identify what was happening in the sky), in the third grade it was paleontology and I learned everything about every kind of dinosaur, and in college it was physics and I worked in three research laboratories while getting my degree. Now I want to learn everything about psychology!

Personas

The birth and death of Patterns and Concepts are associated with Personas in a closed Mentality Loop:

Conceptual

Thinking to iNtuiting - Thesis - To formulate the Concept.

iNtuiting to Feeling - Application - To find uses for the Concept.

Feeling to Sensing - Promotion - To begin utilization of the Concept.

Sensing to Thinking - Adaptation - To develop the Concept.

Patterned

iNtuiting to Thinking - Proof - To define the Pattern.

Thinking to Sensing - Research - To locate the Pattern in nature.

Sensing to Feeling - Priority - To address the Pattern when necessary.

Feeling to iNtuiting - Standardization - To update every procedure with the Pattern.

Identity / Primary Persona: Derived from the Primary Field, this Persona is the most conscious and so is shaped by social expectation; it is based on the Referential and Responsible Functions and developed by the Relationship Rated 11, which shares the Values, Manner, and Temperament; it is Disrupted by the Relationship Rated 3 and associated with positive reinforcement in operant conditioning.

Charisma / Secondary Persona: Derived from the Secondary Field, this Persona is used for versatility; it is based on the Experimental and Hopeful Functions and developed by the Relationship Rated 12, which shares the Values; it is Disrupted by the Relationship Rated 0 and associated with negative punishment in operant conditioning and also Fear because there is something to lose when it is used.

Inspiration / Tertiary Persona: Derived from the Secondary Field, this Persona works toward important accomplishments in life; it is based on the Aggressive and Depressive Functions and developed by the Relationship Rated 2, which shares the Manner; it is Disrupted by the Relationship Rated 10 and associated with positive punishment in operant conditioning and also Anger because there is something with which to deal when it is used.

Mask / Quarternary Persona: Derived from the Primary Field, this Persona is used to address problems; it is based on the Avoidant and Rebellious Functions and developed by the Relationship Rated 1, which shares the Temperament; it is Disrupted by the Relationship Rated 13 and associated with negative reinforcement in operant conditioning and also Fear and Anger because there is something to hide when it is used.

Disruption occurs when a Persona (all of which share the Exertion of the Type) is confronted by Functions of opposite Exertion and Value but similar order of Preference (which then compete for attention). It is similar to "Extinguishment" in Socionics, and its minimization is the purpose of the Consciousness Hierarchy.

The difference between the Jungian Cognitive Functions and the Personas is that the Personas cannot be used simultaneously and are a presentation of the Self to the world whereas the Jungian Cognitive Functions may be used simultaneously and are mostly hidden from the world in the subconscious or as introverted Function Temperaments.

*One advantage of having a Relationship Rated 13 is that all Fields are present, allowing different information to be addressed completely by both partners; this provides the necessary foundations for a successful partnership. It is not to say that people don't sometimes prefer to work alone - sometimes a closed Mentality Loop is not helpful. An Idealist-Inventor may Feel that Adaptation is not economical, and an Inspector-Inventor may Think that Applications are not relevant in urgent situations. A Guardian-Discoverer may Feel that there is cause for concern in directly employing a Thesis, and an Analyst-Discoverer may Think that Promotion would result in the endorsement of only the immediately profitable aspects of an enterprise. An Idealist-Discoverer may Feel that confirmation-biased interpretation is the result of Research, and an Inspector-Discoverer may Think that Standardization prevents competition. A Guardian-Inventor may Feel that a Proof does not imply anything new, and an Analyst-Inventor may

Think that a stated Priority requires more evidence. However, this direction is not conducive to communication and prevents growth for both partners.

Charisma is achieved by overcoming Fear, Inspiration is achieved by overcoming Anger, and a Mask is achieved by overcoming Fear and Anger.

The Mask seems like it closes the Mentality Loop (all of its Personas being represented), helping the wearer to look more authoritative (having considered every possibility). It is commonly used to reject intervention.

The Charisma shows how well one can impress the Types whose Relationships are Rated higher than Relationships with one's own Type. It is used when meeting new people and addressing a crowd.

The Identity allows the user to have a sense of Self, from which to create stability and balance. It is used more than any other Persona.

The Inspiration is not influenced by social expectation and provides the freedom to return to one's instincts. It is used when one is not paying attention and is behind sudden realizations.

Here are some anecdotes that illustrate the way the Inspiration occurs in different Types:

As an INTJ, Cognietrics is one of my Theses; I consider it a step forward in the study of typology, and I hope that it inspires future generations of psychologists. For me, it is easy to show the actuality of typological categorization using examples such as these (in mathematics it is called Proof by Induction) or to formulate rationalist Proofs of my ideas by inferring the similarities between the combined effects of different Myers-Briggs Preferences, but it would be a lot harder for me to combine this theory with others

in order to propose a common Thesis; however, I have tried to make my ideas as generally applicable as possible.

The same INTP from my other story refuses to acknowledge Cognitrics until it is backed by science, although I told him that self-awareness is not easy for most people and would inhibit any study that I conducted. Nevertheless, Proof would be the deciding factor for him, his Thesis being (as usual) that ideas must have solid empirical evidence to be applicable.

An INFJ I know is an artist who uses very unorthodox methods to create art. Clay sculptures in picture frames, accordion-like structures made of parts of copies of the original pictures, and other visual realizations fill the wall. What she did, in fact, was take a new Application for many materials and tools and make it Standardized so that when we took her art class we were able to make the exact same sort of thing. It was, all in all, the most interesting art class that I have ever attended.

An INFP musician likes to make up songs on the spot to show off his improvisation skills, often including the name of the person to whom he addresses the song. The most memorable parts of his songs happen when he does something creative - one time, he changed the ending of a word in a song to rhyme with someone's name, stretching out that syllable and fading out and alternating vocalizations of the rhyme with that of the original word, and in doing so he found new Applications for both the word (as a rhyme) and his vocalizations (using fading alternations). It made a huge impression on me because it sounded so good, and contrasted with his typical use of uniformity and Standardization of themes and ideas (such as normal rhyming and singing) that was probably the reason for the original adjustment.

Dispositions

Only the Relationships Rated 13 and 11 share the Disposition, which mirrors Mentality Loops in each Field as determined by Reaction Preference.

Patterned

Curious to Resolute: A lack of attachments may precede a divergence of commitments.

Resolute to Serious: A divergence of commitments may result in important enterprises.

Serious to Reasonable: Important enterprises may require alternative support.

Reasonable to Curious: Alternative support may lead to a lack of attachments.

Conceptual

Curious to Reasonable: Pleasant experiences may produce unorthodox ideas.

Reasonable to Serious: Unorthodox ideas may garner a powerful response.

Serious to Resolute: A powerful response may involve certain stipulations.

Resolute to Curious: Certain stipulations may bring pleasant experiences.

Roles

Patterned Extraverts are Contextual because they look at how people live; they are known as Investigators.

Conceptual Introverts are Contextual because they consider relevant forms of control in a niche; they are known as Engineers.

Patterned Introverts are Axiomatic because they look at the emergence of complex phenomena; they are known as Scientists.

Conceptual Extraverts are Axiomatic because they use easily-understood methods; they are known as Guides.

Contextual Types consider a situation and the history that brought it about to be unique, with a goal of accuracy.

Axiomatic Types use universal laws and principles, with a goal of precision.

*Scientists will chart correlations (Patterned), which may be used in a Visionary rather than Scholarly (Theoretical) way, but Theorists require a functional design (Conceptual), which may be Contextual rather than Axiomatic (the realm of Science).

Expression

Cognitrics makes certain predictions about how two Types will Express themselves extravertedly given agreement or disagreement. It is obvious that among Axiomatic Types, NTJs and NFPs Express themselves differently from each other. If common iNtuition is considered, it is obvious that the NTJ can make the idea seem more communicable by using Thought, but if common Seriousness is considered, it is obvious that the NFP can make the idea seem more communicable by using Reason. Because of this, each Type will often disagree using the Reaction Demeanor and agree using the Contemplation Demeanor. As such, agreement is subconscious and so mostly Experimental to the Extravert, as disagreement is for the Introvert. With time, agreement becomes a powerful influence and tool for the Extravert and disagreement becomes so for the Introvert, allowing Extraverts to build close communities while maintaining power Referentially and Introverts to develop unique projects while maintaining receptivity Referentially.

Contextual Expressiveness by Value

NTP>NFJ Reason beats Curiousness due to usefulness.

NFJ>SFP Curiousness beats Resoluteness due to desirability.

SFP>STJ Resoluteness beats Seriousness due to ability to commit.

STJ>NTP Seriousness beats Reason due to importance.

Contextual Expressiveness by Preference

NTP>STJ iNtuition beats Thought due to unfamiliarity.

STJ>SFP Thought beats Sensation due to conditionality.

SFP>NFJ Sensation beats Feeling due to form.

NFJ>NTP Feeling beats iNtuition due to exclusivity.

Axiomatic Expressiveness by Value

NTJ>STP Seriousness beats Resoluteness due to complications.

STP>SFJ Resoluteness beats Curiousness due to faith.

SFJ>NFP Curiousness beats Reason due to focus.

NFP>NTJ Reason beats Seriousness due to possibilities.

Axiomatic Expressiveness by Preference

NTJ>NFP Thought beats iNtuition due to constraints.

NFP>SFJ iNtuition beats Feeling due to uncertainty.

SFJ>STP Feeling beats Sensation due to direction.

STP>NTJ Sensation beats Thought due to realism.

Natures

Types with a Reasonable Referential Function or a Resolute Responsible Function are known as Associaters; they have extremely detailed ideas.

Types with a Resolute Referential Function or a Reasonable Responsible Function are known as Observers; they never lose sight of the "Big Picture".

Characters

Types with a Curious Referential Function or a Serious Responsible Function are known as Reformers; they work from the bottom up for a justified cause.

Types with a Serious Referential Function or a Curious Responsible Function are known as Administrators; they work from the top down for maximum efficiency.

*Some say that the "Big Picture" is top down and the details are bottom up, however Quantum Theory has no "Big Picture" in the form of a coherent and accepted interpretation, though it is described from the top down using systematic controls; "Social Justice Warriors" work from the bottom of the social ladder up, but are rarely concerned with anything but the "Big Picture" - this may involve a policy that is hard to implement consistently.

Inferences

Referential sensing and Responsible intuiting lead to Induction.

Referential intuiting and Responsible sensing lead to Deduction.

When you Induct you consolidate many Sensations and determine what you may actually iNtuit as a result. When you Deduce you consolidate many iNtuitions and determine what you may actually Sense as a result.

Induction reaches an abstract conclusion about multiple concrete categories using examples from those categories, leaving nothing to the senses for verification; it is used when making mental leaps.

Deduction reaches a concrete conclusion about multiple abstract arguments based on its relationships to those premises, leaving nothing to the imagination for verification; it is used when constructing sound arguments.

Justifications

Referential thinking and Responsible feeling lead to Knowledge.

Referential feeling and Responsible thinking lead to Understanding.

When you define your Thoughts it is because you Know, when you employ them it is because you Understand.

When you define your Feelings it is because you Understand, when you employ them it is because you Know.

In this way, Thinkers progress from Knowing what their Thoughts are to Understanding what their Thoughts are, and Feelers progress from Understanding what their Feelings are to Knowing what their Feelings are. In addition, Knowing progresses from Thoughts to Feelings and Understanding progresses from Feelings to Thoughts.

Knowledge deals with specific facts, whereas Understanding deals with generalized comprehension.

Therefore, in the end Thinking is when you Understand how to make use of Knowledge, and Feeling is when you Know how to make use of Understanding; Feeling uses the general to create the specific, and Thinking uses the specific to create the general.

*Some teach incorrectly that Induction uses the specific to create the general, as in "this A is B, therefore all A are B", and that Deduction uses the general to create the specific, as in "all A are B, all B are C, therefore the next A will be C". However, Induction can use the general to create the specific, as in "all A have been B, therefore the next A will be B", and Deduction can even use the general to create the general, as in "all A are B, all B are C, therefore all A are C".

This occurs because the third Function is already somewhat accommodated along with the first Function due to the sharing of the primary exertion.

Hence, in redefining these ideas, Cognietrics makes of itself a sort of epistemological treatise.

The Philosophy of Personae

The Justification and Inference apply to the Personae.

Thesis and Priority require Induction for classification and Knowledge for preventing inferiority.

Proof and Promotion require Deduction for differentiation and Understanding for matching ideas.

Research and Application require Deduction for differentiation and Knowledge for preventing inferiority.

Adaptation and Standardization require Induction for classification and Understanding for matching ideas.

Values

The Values are based on Socionics, where they correspond to the "Quadra Values". They are called Curious, Serious, Reasonable, and Resolute. They are called the Values here because they are sought in an ideal partner (Relationships where both Values are shared are highly Rated at 10-13, if neither Value is shared the Rating is 0-3).

Each pair of Complementary Functions is assigned a Value, and is always found in either the Positive or Negative Attitudes.

The Resolute Functions, Scouting (extraverted sensing) and Statistical (introverted intuiting), Complement each other because it is easier to be showy if you know the probability of what you're showing. Resolute Types live strictly by their choices, and seldom change their minds.

The Reasonable Functions, Counterfactual (extraverted intuiting) and Optimizing (introverted sensing), Complement each other because possibilities may not be worthwhile if they are not practical. Reasonable Types will often search for the best solution and will frequently change their minds as they consider new ideas, they also play devil's advocate.

The Serious Functions, Strategic (extraverted thinking) and Critical (introverted feeling), Complement each other because to calculate success for a tactic you must know its limits. Serious Types have a powerful connection to their interests and strive to be productive.

The Curious Functions, Relating (extraverted feeling) and Aetiological (introverted thinking), Complement each other because it is easier to sympathize with people if you know the causes of their behavior. Curious Types have fun celebrating life and like to spread their mood contagiously.

Types that are Serious and Reasonable are known as Counselors.

Types that are Curious and Resolute are known as Advocates.

Types that are Serious and Resolute are known as Skeptics.

Types that are Curious and Reasonable are known as Negotiators.

You can't Negotiate with a Skeptic, and you can't give Counsel to an Advocate.

Some caution is advised - asking questions is not an indicator of being Curious, as different situations will necessitate different behaviors, but preferring to be around Curious Types is. The same is true for acting Serious, Resolute, or Reasonable.

Mindfulness and Preferences

Just because you are a certain Cognietrics Type it doesn't mean that you shouldn't be Mindful of the other Preferences.

You can be Mindful of Sensation by paying close attention to things in your immediate environment.

You can be Mindful of iNtuition by imagining where you plan to be in the next 5-10 years.

You can be Mindful of Thought by considering whether there are contradictions in your beliefs and how to deal with them.

You can be Mindful of Feeling by considering how to support the things that are most important to you.

You can be Mindful of Judgment by following your schedule and deadlines.

You can be Mindful of Perception by being aware of the way you operate and the way the world works.

You can be Mindful of Extraversion by listening carefully to what other people say and anticipating their needs.

You can be Mindful of Introversion by taking the time to relax and promote your own interests.

Traits

a - Exertion

b - Suggestion

c - Meaning

d - Reaction

1. a Exertion - Introverted or Extraverted

2. b Suggestion - iNtuiting or Sensing

3. c Meaning - Thinking or Feeling

4. d Reaction - Judger or Perceiver

5. ab Nature - Observer or Associater

6. ac Character - Reformer or Administrator

7. bd Bearing - Resolute or Reasonable

8. cd Outlook - Serious or Curious

9. ad Temperament - Inventor or Discoverer

10. bc Manner - Classicist or Progressive

11. abc Field - Scholar or Visionary

12. bcd Role - Axiomatic or Contextual

13. abd Inference - Deductive or Inductive

14. acd Justification - Understanding or Knowing

15. abcd Mentality - Patterned or Conceptual

*The opposite Trait is usually expressed only in order to correct something. The Traits were inspired by Grigory Reinin's work in Socionics. Though I do not use the same language as him to describe the Traits, I believe that much of our work is similar - for instance, his "Asking" dichotomy refers to conditional dependency, as does my Contextual Trait, and it is associated with the same Types in both Socionics and Cognietrics. Fewer determining letters indicates that the Trait is more directly distinguished behaviorally. The Traits form an Abelian group if opposing Traits are included, with respect to each other and an identity element. Each Type shares exactly 7/15 Traits with any other Type (except, of course, the same Type). I will demonstrate that if a Type is changed, then the number of Traits that change with it is always 8, and that it doesn't matter how many of the Preferences are changed. If an even number of determining letters is changed, then the determined Trait stays the same, but if an odd number is changed, then the determined Trait changes as well. Because of the symmetry existing among the Preferences in determining the different Traits (which represent every combination of Preferences), the number of Traits that change for a change in one determining letter still holds if another determining letter is changed instead.

changing letters: unchanging traits / changing traits

a: b c d bc bd cd bcd / a ab ac ad abc abd acd abcd

ab: c d ab cd abc abd abcd / a b ac ad bc bd acd bcd

abc: d ab ac bc abd acd bcd / a b c ad bd cd abc abcd

abcd: ab ac ad bc bd cd abcd / a b c d abc abd acd bcd

Trait Determination Triads

Here is yet another way to determine Cognietrics Types using Trait Determination Triads (TDTs), since any two Traits imply a third:

Patterned, iNtuiting, Understanding - this Type extrapolates data to untested regions.

INTJ ENTP INFP ENFJ

Patterned, Sensing, Knowing - this Type picks up on things very easily.

ESTJ ISTP ESFP ISFJ

Conceptual, iNtuiting, Knowing - this Type can identify potential effects using a model.

ENTJ INTP ENFP INFJ

Conceptual, Sensing, Understanding - this Type can confirm utility in different situations.

ISTJ ESTP ISFP ESFJ

Patterned, Thinking, Deductive - this Type checks the extent of tendencies with logic.

INTJ ENTP ESTJ ISTP

Patterned, Feeling, Inductive - this Type accommodates recurring notions with an inclusive emotional response.

INFP ENFJ ESNP ISFJ

Conceptual, Thinking, Inductive - this Type assesses performance using combined attributes.

INTP ENTJ ESTP ISTJ

Conceptual, Feeling, Deductive - this Type chooses a suitable significance in accordance with the limits of expectations.

INFJ ENFP ESFJ ISFP

Patterned, Introverted, Axiomatic - this Type (Scientist) looks at the emergence of complex phenomena.

INTJ ISFJ ISTP INFP

Patterned, Extraverted, Contextual - this Type (Investigator) looks at how people live.

ENTP ESFP ESTJ ENFJ

Conceptual, Introverted, Contextual - this Type (Engineer) considers relevant forms of control in a niche.

INTP ISFP ISTJ INFJ

Conceptual, Extraverted, Axiomatic - this Type (Guide) uses easily-understood methods.

ENTJ ESFJ ESTP ENFP

Patterned, Judger, Scholar - this Type (Expert) determines what patterns mean collectively and responds.

INTJ ESTJ ISFJ ENFJ

Patterned, Perceiver, Visionary - this Type (Prospector) mines data and seeks rewards.

ESFP INFP ENTP ISTP

Conceptual, Judger, Visionary - this Type (Philosopher) chooses methods suitable for accomplishing a goal.

ESFJ INFJ ENTJ ISTJ

Conceptual, Perceiver, Scholar - this Type (Theorist) simulates realities and responds accordingly.

INTP ESTP ISFP ENFP

Patterned, Classicist, Inventor - this Type supports established purposes.

INTJ ESFP ISFJ ENTP

Patterned, Progressive, Discoverer - this Type uses conjectural insights.

ESTJ INFP ENFJ ISTP

Conceptual, Classicist, Discoverer - this Type uses established insights.

INTP ESFJ ISFP ENTJ

Conceptual, Progressive, Inventor - this Type supports conjectural purposes.

ESTP INFJ ENFP ISTJ

Patterned, Serious, Observer - this Type looks for possible indicators.

INTJ ESFP ESTJ INFP

Patterned, Curious, Associater - this Type looks for similarities.

ENTP ISFJ ENFJ ISTP

Conceptual, Serious, Associater - this Type is very open-minded.

ISTJ ENFP ENTJ ISFP

Conceptual, Curious, Observer - this Type collects unique methods for later use.

ESTP INFJ ESFJ INTP

Patterned, Resolute, Reformer - this Type endorses an action based on the accumulation of seemingly insignificant tendencies.

INTJ ESFP ISTP ENFJ

Patterned, Reasonable, Administrator - this Type wants to maximize returns.

ESTJ INFP ENTP ISFJ

Conceptual, Resolute, Administrator - this Type sticks to certain criteria.

ESTP INFJ ENTJ ISFP

Conceptual, Reasonable, Reformer - this Type wants to replace underperforming components.

INTP ESFJ ISTJ ENFP

Understanding, Deductive, Classicist - this Type tries to get a solid impression of things as they are.

INTJ ISFP ENTP ESFJ

Understanding, Inductive, Progressive - this Type documents information for an overall assessment.

ISTJ INFP ESTP ENFJ

Knowing, Deductive, Progressive - this Type realizes where direct involvement is absolutely necessary.

ISTP INFJ ESTJ ENFP

Knowing, Inductive, Classicist - this Type invests according to local history.

INTP ISFJ ENTJ ESFP

Understanding, Axiomatic, Observer - this Type tries to see a situation with respect to fundamental laws.

INTJ ESTP INFP ESFJ

Understanding, Contextual, Associater - this Type looks for hidden significance.

ISTJ ENTP ISFP ENFJ

Knowing, Axiomatic, Associater - this Type sees how to apply the rules to every situation.

ISTP ENTJ ISFJ ENFP

Knowing, Contextual, Observer - this Type is hard to dissuade.

INTP ESTJ INFJ ESNP

Understanding, Scholar, Resolute - this Type wants to answer questions.

INTJ ESTP ENFJ ISFP

Understanding, Visionary, Reasonable - this Type wants to reconcile disparate entities.

ENTP ESFJ ISTJ INFP

Knowing, Scholar, Reasonable - this Type tries to be wise above all else.

ESTJ ENFP INTP ISFJ

Knowing, Visionary, Resolute - this Type does not let a goal out of sight.

ISTP INFJ ENTJ ESFP

Understanding, Thinking, Inventor - this Type tries every possibility.

INTJ ISTJ ENTP ESTP

Understanding, Feeling, Discoverer - this Type tries to get a feel for things.

ESFJ ENFJ ISFP INFP

Knowing, Thinking, Discoverer - this Type searches for discrepancies.

INTP ISTP ENTJ ESTJ

Knowing, Feeling, Inventor - this Type rearranges ideas to encourage different aspects.

ESFP ENFP ISFJ INFJ

Understanding, Introverted, Serious - this Type has an interest in something.

INTJ ISTJ INFP ISFP

Understanding, Extraverted, Curious - this Type is ready for anything.

ESFJ ENFJ ESTP ENTP

Knowing, Introverted, Curious - this Type is intrigued about a situation.

INTP ISTP INFJ ISFJ

Knowing, Extraverted, Serious - this Type cares about the well-being of others.

ESFP ENFP ESTJ ENTJ

Understanding, Judger, Reformer - this Type looks for new ways to take action.

INTJ ISTJ ESFJ ENFJ

Understanding, Perceiver, Administrator - this Type wants all of the information before taking action.

ENTP ESTP ISFP INFP

Knowing, Judger, Administrator - this Type takes action as soon as warranted.

ENTJ ESTJ ISFJ INFJ

Knowing, Perceiver, Reformer - this Type considers the ideal method for taking action.

INTP ISTP ESFP ENFP

Deductive, Axiomatic, Reformer - this Type wants to find out how the use of principles can help.

INTJ ENFP ESFJ ISTP

Deductive, Contextual, Administrator - this Type tries to visualize how a situation can accommodate the group in the long term.

INFJ ENTP ESTJ ISFP

Inductive, Axiomatic, Administrator - this Type makes sure a group complies with every accepted standard.

ESTP ISFJ INFP ENTJ

Inductive, Contextual, Reformer - this Type tries to give a unique situation what it needs as a whole.

ESFP ISTJ INTP ENFJ

Deductive, Scholar, Serious - this Type does not want to face typical repercussions.

INTJ ENFP ISFP ESTJ

Deductive, Visionary, Curious - this Type makes detached assessments.

INFJ ENTP ISTP ESFJ

Inductive, Scholar, Curious - this Type likes to learn as much as possible.

INTP ENFJ ISFJ ESTP

Inductive, Visionary, Serious - this Type has an all-encompassing plan.

INFP ENTJ ISTJ ESFP

Deductive, iNtuiting, Inventor - this Type sees how to do things that were never done before.

INTJ INFJ ENTP ENFP

Deductive, Sensing, Discoverer - this Type is always trying to capitalize on what's available.

ISTP ISFP ESTJ ESFJ

Inductive, iNtuiting, Discoverer - this Type wants to realize how everything affects everything else.

INTP INFP ENTJ ENFJ

Inductive, Sensing, Inventor - this Type combines unique approaches to solve problems in a new way.

ISTJ ISFJ ESTP ESFP

Deductive, Introverted, Resolute - this Type comes to its own conclusions.

INTJ INFJ ISTP ISFP

Deductive, Extraverted, Reasonable - this Type wants to improve the quality of life for everyone.

ESTJ ESFJ ENTP ENFP

Inductive, Introverted, Reasonable - this Type is even-handed when dealing with complicated situations.

INTP INFP ISTJ ISFJ

Inductive, Extraverted, Resolute - this Type anticipates dominant effects.

ESTP ESFP ENTJ ENFJ

Deductive, Judger, Observer - this Type tries to stay a few steps ahead, accommodating unforeseen circumstances.

INTJ INFJ ESTJ ESFJ

Deductive, Perceiver, Associater - this Type looks for ways that results could go astray.

ENTP ENFP ISTP ISFP

Inductive, Judger, Associater - this Type wonders how the main process will be affected by outside influences.

ENTJ ENFJ ISTJ ISFJ

Inductive, Perceiver, Observer - this Type wants to anticipate the mechanics that contribute to the main process.

INTP INFP ESTP ESFP

Axiomatic, Scholar, Inventor - this Type tries a functional design based on principles.

INTJ ISFJ ESTP ENFP

Axiomatic, Visionary, Discoverer - this Type wants to see for themselves.

ENTJ ESFJ ISTP INFP

Contextual, Scholar, Discoverer - this Type focuses on a specialization.

INTP ISFP ESTJ ENFJ

Contextual, Visionary, Inventor - this Type wants to provide hope.

ENTP ESFP ISTJ INFJ

Axiomatic, Judger, Classicist - this Type prefers to excel in areas that have been thoroughly studied.

INTJ ENTJ ISFJ ESFJ

Axiomatic, Perceiver, Progressive - this Type wants to find loopholes.

ISTP ESTP INFP ENFP

Contextual, Judger, Progressive - this Type is aware that time can be limited.

ISTJ ESTJ INFJ ENFJ

Contextual, Perceiver, Classicist - this Type hesitates to disrupt a natural balance.

INTP ENTP ISFP ESFP

Axiomatic, iNtuiting, Serious - this Type wants predictability.

INTJ ENTJ INFP ENFP

Axiomatic, Sensing, Curious - this Type characterizes everything.

ISTP ESTP ISFJ ESFJ

Contextual, iNtuiting, Curious - this Type has a response for everything.

INTP ENTP INFJ ENFJ

Contextual, Sensing, Serious - this Type is very careful.

ISTJ ESTJ ISFP ESFP

Axiomatic, Thinking, Resolute - this Type is certain of its principles.

INTJ ENTJ ISTP ESTP

Axiomatic, Feeling, Reasonable - this Type believes that there is a time and a place for everything.

INFP ENFP ISFJ ESFJ

Contextual, Thinking, Reasonable - this Type is very considerate.

INTP ENTP ISTJ ESTJ

Contextual, Feeling, Resolute - this Type will not give up easily.

INFJ ENFJ ISFP ESFP

Scholar, Introverted, Classicist - this Type has a deep connection to the past.

INTJ ISFP INTP ISFJ

Scholar, Extraverted, Progressive - this Type wants to spread ideas.

ESTJ ENFP ESTP ENFJ

Visionary, Introverted, Progressive - this Type wants a revolution.

ISTJ INFP ISTP INFJ

Visionary, Extraverted, Classicist - this Type wants to spread values.

ENTJ ESFP ENTP ESFJ

Scholar, iNtuiting, Reformer - this Type likes to second-guess.

INTJ INTP ENFJ ENFP

Scholar, Sensing, Administrator - this Type maintains an awareness of everything.

ISFJ ISFP ESTJ ESTP

Visionary, iNtuiting, Administrator - this Type looks for a straightforward path.

INFJ INFP ENTJ ENTP

Visionary, Sensing, Reformer - this Type sees what can be improved.

ISTJ ISTP ESFJ ESFP

Scholar, Thinking, Observer - this Type considers how lessons apply to real situations.

INTJ INTP ESTJ ESTP

Scholar, Feeling, Associater - this Type remembers emotions concerning its many past projects in order to help others in the future.

ISFJ ISFP ENFJ ENFP

Visionary, Thinking, Associater - this Type looks for the most effective ways to do things.

ISTJ ISTP ENTJ ENTP

Visionary, Feeling, Observer - this Type wants what is best for something.

INFJ INFP ESFJ ESFP

Classicist, Serious, Resolute - this Type (Skeptic) relies on experience.

INTJ ENTJ ISFP ESNP

Classicist, Curious, Reasonable - this Type (Negotiator) wants to make the best of a current situation.

INTP ENTP ISFJ ESFJ

Progressive, Serious, Reasonable - this Type (Counselor) wants to see what else is out there.

ISTJ ESTJ INFP ENFP

Progressive, Curious, Resolute - this Type (Advocate) has strong beliefs concerning how things should be.

ISTP ESTP INFJ ENFJ

Classicist, Reformer, Observer - this Type wants to overhaul operations.

INTJ INTP ESFJ ESNP

Classicist, Administrator, Associater - this Type tries to reinforce a position.

ENTJ ENTP ISFJ ISFP

Progressive, Reformer, Associater - this Type wants to try new things.

ISTJ ISTP ENFJ ENFP

Progressive, Administrator, Observer - this Type wants to benefit from all previous trials.

ESTJ ESTP INFJ INFP

Classicist, Thinking, iNtuiting - this Type (Analyst) wants to see how events can be connected.

INTJ ENTJ INTP ENTP

Classicist, Feeling, Sensing - this Type (Guardian) wants to preserve precious items and ideas.

ISFJ ESFJ ISFP ESFP

Progressive, Thinking, Sensing - this Type (Inspector) wants to make sure that quality is always what it should be.

ISTJ ESTJ ISTP ESTP

Progressive, Feeling, iNtuiting - this Type (Idealist) wants to improve the state of the world.

INFJ ENFJ INFP ENFP

Inventor, Serious, Reformer - this Type wants to find ways to address flaws.

INTJ ESFP ISTJ ENFP

Inventor, Curious, Administrator - this Type provides competitive incentives.

ENTP ISFJ ESTP INFJ

Discoverer, Serious, Administrator - this Type wants absolute control.

ENTJ ISFP ESTJ INFP

Discoverer, Curious, Reformer - this Type believes that there is always room for improvement.

INTP ESFJ ISTP ENFJ

Inventor, Resolute, Observer - this Type wants to make the best use of available resources.

INTJ ESFP INFJ ESTP

Inventor, Reasonable, Associater - this Type finds other ways of doing things.

ENTP ISFJ ENFP ISTJ

Discoverer, Resolute, Associater - this Type is very thorough in its work.

ENTJ ISFP ENFJ ISTP

Discoverer, Reasonable, Observer - this Type keeps an eye out for better possibilities.

INTP ESFJ INFP ESTJ

Inventor, Introverted, Judger - this Type (Evaluator) combines a few key points to interpret holistically.

INTJ ISTJ INFJ ISFJ

Inventor, Extraverted, Perceiver - this Type (Explorer) tests its mental faculties in novel situations.

ENTP ESTP ENFP ESFP

Discoverer, Introverted, Perceiver - this Type (Reflector) sees an idea from every angle individually to preserve the purity of each impression.

INTP ISTP INFP ISFP

Discoverer, Extraverted, Judger - this Type (Persuader) wants people to see things from its point of view.

ENTJ ESTJ ENFJ ESFJ

Serious, Judger, Thinking - this Type (Strategic) realizes effects and resulting implications for direct systemization and encourages a state of prosperity.

INTJ ENTJ ISTJ ESTJ

Serious, Perceiver, Feeling - this Type (Critical) has strong opinions and weighs different options to represent exclusive bonds.

INFP ENFP ISFP ESFP

Curious, Judger, Feeling - this Type (Relating) determines emotional states, shares enthusiasm, and endorses harmony.

INFJ ENFJ ISFJ ESFJ

Curious, Perceiver, Thinking - this Type (Aetiological) finds causes using fundamental suppositions and identifies feedback loops.

INTP ENTP ISTP ESTP

Resolute, Judger, iNtuiting - this Type (Statistical) has reliable expectations and considers the unknowable for developing robust ideas.

INTJ ENTJ INFJ ENFJ

Resolute, Perceiver, Sensing - this Type (Scouting) is showy and tests limitations.

ISTP ESTP ISFP ESFP

Reasonable, Judger, Sensing - this Type (Optimizing) monitors resources and concentrates on performance.

ISTJ ESTJ ISFJ ESFJ

Reasonable, Perceiver, iNtuiting - this Type (Counterfactual) makes novel comparisons, brainstorm, and envisions hypothetical change.

INTP ENTP INFP ENFP

Reformer, Introverted, Thinking - this Type is concerned with the feasibility of improvements.

INTJ INTP ISTJ ISTP

Reformer, Extraverted, Feeling - this Type wants to address everyone's concerns.

ENFJ ENFP ESFJ ESNP

Administrator, Introverted, Feeling - this Type makes tough decisions.

INFJ INFP ISFJ ISFP

Administrator, Extraverted, Thinking - this Type tries to find a way to accommodate everyone.

ENTJ ENTP ESTJ ESTP

Observer, Introverted, iNtuiting - this Type comes up with probable and possible expectations.

INTJ INTP INFJ INFP

Observer, Extraverted, Sensing - this Type looks for signals.

ESTJ ESTP ESFJ ESFP

Associater, Extraverted, iNtuiting - this Type tries to make a project appealing.

ENTJ ENTP ENFJ ENFP

Associater, Introverted, Sensing - this Type concentrates on what a project can use.

ISTJ ISTP ISFJ ISFP

*Applications exist for the Cognitrics Traits even in areas as diverse as physics: in Classical Mechanics, an Axiomatic discipline, while supposed Knowledge is a factor not directly correlated though partially Associated with every system, due to David Hume's Problem of Induction, only Understanding comes from continuous Observation. However, as implied by the Copenhagen Interpretation, in Quantum Mechanics the opposite is true: Contextual information that is due to the dependence of randomly Known Observables on the undocumented yet Understood influence of the Associater prevents Knowledge of the effects of the Association or continuous Understanding of the Observables. Though some may consider this to be a psychologism, I believe that the definitions given by Cognitrics have real potential in explaining the epistemological positions concerning the scientific frontier, especially with respect to the documentation of a large variety of human behaviors, because of their fundamental versatility and interdependence. Interestingly enough, Carl Gustav Jung had a close correspondence with Wolfgang Ernst Pauli, one of the founding fathers of Quantum Mechanics.

Philosophical concepts derived from the Triads:

As Curious about Causes and Serious about Effects:

Causes become Conceptual Observations from Associated Patterns. Effects become Conceptual Associations from Observed Patterns.

When one considers that for something to be Counterfactual it must be deterministic, and that something Statistical in nature is probabilistic:

It becomes obvious that Optimizing complements determinism as a way of dealing with inevitability, whereas Scouting is a search for a tiny probability of success in the face of overwhelming odds. Probabilistic Sensors Perceive because they are less sure what to notice while deterministic Sensors may follow a formula. Deterministic iNtuitives Perceive because they are working things out whereas probabilistic iNtuitives are already aware of their chances. The deterministic deals with the possible. The probabilistic deals with the probable.

There are connections to the sciences. Decision-Making, or Contextual Feeling, is the result of Bayesian Statistics, and Cosmology, or Axiomatic Thought, is at best Frequentist Statistics. Use of a deterministic equation with the conditionality of a variable, which also requires Thought, examines Chaos, where small initial deviations may result in large effects. That universal truths may occur deterministically may help one to Feel relative value about things that display Complexity, the minimum information required to document something, where an effect is only due to a collective behavior of components which suppresses other influences. As such, complex thoughts, unless overly simplified with conscious logic, must actually be felt in order to be considered significant, and chaotic feelings must actually be thought as no significance is yet attributed to them.

Inductive Reasoning is subjective, or Introverted, and so hard to share because the process of causation is concerned rather than a probabilistic class, leading to a variation of infinitism as used in the Münchhausen Trilemma (the regressive argument, in which each proof requires a further proof ad infinitum), as well as the degree of Inductive relevance, and the disagreement of proximate causes in the service of an ultimate cause. Deduction based on probabilities likewise concerns subjective elements and is hard to share. The probabilities of Inductive classes can be easily shared with a chart, and Deductive Reasoning likewise can be shown to be a set of syllogisms.

Classicists take probability Seriously and determinism Curiously. Progressives take determinism Seriously and probability Curiously. Reformers assist Concepts deterministically and Patterns statistically. Administrators check Concepts statistically and Patterns deterministically.

Considering that Inventors use synthetic clauses and Discoverers use analytic clauses:

Probabilistic Analysis, including average and standard deviation for a distribution, represents details calculated for Association, and so does Deterministic Synthesis. Direct Observation of the “Big Picture” occurs as a result of either Deterministic Analysis or Probabilistic Synthesis.

Deduction is synthetic iNtuition and analytic Sensation. Induction is analytic iNtuition and synthetic Sensation. Thinking is analytic Knowledge and synthetic Understanding. Feeling is synthetic Knowledge and analytic Understanding. Scholars use synthetic universals and analytic conditionality. Visionaries use analytic universals and synthetic conditionality.

As foundationalism is based on a form of Knowledge and coherentism is based on a form of Understanding:

Foundations are ideas that are Conceptually iNtuitive, however the scope of any associated Patterns must be found in Practice and cannot be guessed. Coherence allows Patterns to be iNtuitied by relevant associations though the Concepts in use must be Practical in order to have a working model.

Universal foundations must be Associated due to their unique definitions, but when consistent foundations are Observed it is always in an incomplete Contextual manner due to Godel's Theorem, however when universals are Observed or Contextual information is Associated the goal is coherence.

Coherence proceeds from Deduction to Induction. Foundations proceed from Induction to Deduction. Invention proceeds from Patterns to Concepts. Discovery proceeds from Concepts to Patterns. Reform proceeds from Observation to Association. Administration proceeds from Association to Observation. Thoughts turn Dreams into Reality. Feelings bring Dreams about Reality. This is different from Induction and Deduction, which occur between Functions in the mind and not groups of people.

Discoverers have foundational logic and emotional coherence. Inventors have foundational emotions and logical coherence.

Scholars deal in deterministic foundations and probabilistic coherence. Visionaries deal in probabilistic foundations and deterministic coherence.

Reformers are quicker to make decisions based on coherence than on foundations. Administrators are quicker to make decisions based on foundations than on coherence.

Because imagination is built on prospective memories iNtuitied individually, and practicality on retrospective memory Sensed as a whole, as Judgment negates memory to deal with change in Thought, or lack thereof in Feeling:

This is why when you like someone you have a good Feeling that doesn't change and Thoughts that do as you learn about the object of your affections. If you are suddenly disappointed it is possible that you will Think something negative that doesn't change while your previous Feelings do.

Understanding makes the unchanging change while Knowledge makes the changing stop. This is why Knowledge, which once justified has an unchanging form, is easier to transfer and store than Understanding.

Similarly, Induction takes ideas from the retrospective memory and applies them to the prospective memory, for example, to come up with an example, whereas Deduction takes ideas from the prospective memory and applies them to the retrospective memory, for example, to catch a lie.

Retrospective Induction and prospective Deduction are useful for Invention. Retrospective Deduction and prospective Induction are useful for Discovery.

Unchanging Knowledge and changing Understanding are useful for Invention. Unchanging Understanding and changing Knowledge are useful for Discovery.

Patterns give retrospective Knowledge and prospective Understanding. Concepts give retrospective Understanding and prospective Knowledge.

Classicists use unchanging retrospection and changing prospection. Progressives use unchanging prospection and changing retrospection.

Scholars use unchanging Associations and changing Observations. Visionaries use unchanging Observations and changing Associations.

Serious Types use prospective Axioms and retrospective Contexts. Curious Types use retrospective Axioms and prospective Contexts.

Probabilistic Types use unchanging Contexts and changing Axioms. Deterministic Types use unchanging Axioms and changing Contexts.

Introverted changing, or transformation, and Extraverted unchanging, or stagnation, are concerned with Reform. Extraverted changing, or chaos, and Introverted unchanging, or principle, are concerned with Administration. Introverted prospection, or planning, and Extraverted retrospection, or necessity, are concerned with the "Big Picture". Introverted retrospection, or experience, and Extraverted prospection, or reminding, are concerned with details. Probabilistic Types are spurred to action by prospective memory, or promise, rather than retrospective memory, or hopelessness. Deterministic Types are spurred to action by retrospective memory, or accountability, rather than prospective memory, or inevitability. Curious Types are spurred to action by unchanging, or boredom, rather than changing, or interest. Serious Types are spurred to action by changing, or urgency, rather than unchanging, or peace.

Induction fits changing Concepts to an unchanging Pattern. Deduction fits unchanging Concepts to a changing Pattern. Every combination of letters represents a Trait which can be logically combined with two others. Ideas such as Concepts, Induction, and even Change evolved together philosophically in groups of convenience, such that the meaning of any one simultaneously came to depend on the meaning of the others. Change itself is Deduced from a Pattern or Inducted Conceptually – red that is slightly purple in hue may seem red, but is actually near the ultraviolet spectrum because red cones are sensitive to violet light. The color has Changed if you Deduce the difference from a Pattern (by visual comparison) or Induct it Conceptually (by wavelength increments), whereas something more stable can be ultimately Deduced Conceptually (process of elimination) or Inducted as a Pattern (representative example).

Relationships

The Relationship Ratings used in Cognietrics Poker are mainly based on the Relationships described by Socionics. However, I think it is more useful to Rate the Relationships, rather than describe them, because every Relationship is a little different. Even though two people share a Jungian Cognitive Function, they may use it a little differently, which means that it would be hard to guess their behaviors well enough to describe their Relationship in real life. However, the use of Positive Functions is a good predictor of a Positive Relationship. There is more to a person than just personality, so the Relationship Rating should not be the deciding factor in the Relationship, though Relationships Rated 13 do encourage beneficial things like personal growth for both partners. Low-Rated Relationships may work better for some; they also tend to be really interesting and show that both partners can be open to different Values. Partners with opposite Values also make versatile teams due to their diversity. These Relationships are not any less likely to last because of their low Rating - my grandparents have been married for 55 years and represent the union of a Skeptic with a Negotiator! The following list contains the Relationship Rating for each Cognietrics Relationship, with the highest number indicating the most favorable Relationship:

(Hopeful, Experimental) - 13

(Experimental, Hopeful) - 12

(Referential, Responsible) - 11

(Responsible, Referential) - 10

(Hopeful, Aggressive) - 9

(Referential, Rebellious) - 8

(Depressive, Experimental) - 7

(Avoidant, Responsible) - 6

(Aggressive, Hopeful) - 5

(Experimental, Depressive) - 5

(Rebellious, Referential) - 4

(Responsible, Avoidant) - 4

(Depressive, Aggressive) - 3

(Aggressive, Depressive) - 2

(Avoidant, Rebellious) - 1

(Rebellious, Avoidant) - 0

Poker

You might enjoy a card game I invented some time ago called Cognietrics Poker.

There are 48 cards, 3 of each personality type. The deck is shuffled. Initial bets are placed. There are 2 cards dealt face-down to each person, and 1 card placed face-up in the center of the table. The total point value of each hand is determined by the relationship between the personality types on the cards in the hand, and the relationships of those personality types to the personality type on the card in the center of the table. Bets are placed again. Then, 1 card from each hand may be traded for 1 new card drawn from the deck. After, bets are placed one last time. The hands are shown. Whoever had the hand with the largest total point value wins. If multiple players have winning hands of equal total point value, then the pot is split between them.

*The Relationship Ratings for each Type can be found in the Type Profiles.

Nootypology

Until now this book has been a treatment of Cognietrics, a theory of mine that pertains to the implications of the four-letter Jungian codes for each Type. This chapter will address the Types with increased detail. Specifically, this chapter is about the psychological development to a more generalized mindset called the Nootype.

There is of course a philosophy of science to which Karl Popper made notable contributions, but is there a science of philosophy? Cognietrics uses Jungian psychological concepts to explain fundamental epistemological positions. However, while many philosophical points arise from Cognietrics, as it addresses Myers-Briggs typology it also shows the limitations. Though the four letters are behavioral expressions compatible with a certain combination of more complex philosophical Traits, the Triads themselves, from which the Preference definitions are in fact derivative, are Abelian subgroups and so have no purposeful direction, and even then ultimately just serve as philosophical evolutionary niches and groupings of convenience arranged to minimize complex operations and increase utility; however, the Nootypological Function Order has direction in time, and the Nootypological Functions themselves are also not niches, because they are binary opposites. At the end of Chapter 6 I mentioned some interesting points about the philosophical implications of the Triads to show that Cognietrics also has value and that Nootypology is more of an extension of Cognietrics, rather than a replacement. In fact, the Cognietric Types, once considered obsolete by the maturing mind (which now avoids Triad niche distractions by utilizing the traits of organization and leadership), become more useful as tools.

Short Nootypological Preferences Test

1. Are your accomplishments more a) competitive or b) creative?
2. Are your interests more a) practical or b) imaginative?
3. Are your decisions more a) emotional or b) logical?
4. Are you more a) flexible or b) rigid in your beliefs?
5. Are your projects a) focused individually or b) influenced with connections?
6. Are your solutions a) invented, b) discovered, or c) diversified?
7. Is your energy attained while a) alone, b) with friends, or c) in the service of a public cause?

Answer Key:

1. a) Achieving b) Generating

2. a) Sensing b) Dreaming

3. a) Feeling b) Thinking

4. a) Realizing b) Challenging

5. a) Maximizing b) Bridging

6. a) Perceiving b) Judging c) Organizing

7. a) Introvert b) Extravert c) Leader

Therefore someone who answered every question with the first option would be an Achieving Sensing Feeling Realizing Maximizing Perceiving Introvert, or an ASFRMPI.

As you can tell, the answer to #6 does not deal with the Reaction Demeanor because Nootype Functions are more complex. I have also dispensed with "N" for iNtuiting because I believe that with all of the extra letters it might be confusing. I have replaced it with "D" for Dreaming.

It would not be incorrect for a GDFCBE who feels very strongly about C to write the letters in some other order such as CJEBCDFG, and in fact I would encourage others to do this so that future analysis may be provided for what it means to have a letter towards the beginning or end. There are 7! Subtype orders for each of the 288 Nootypes, or 1,451,520 Subtypes total. I think that the general case, such as for example “O, J, or P towards the beginning”, would also be fascinating. I, personally, am a TBGDIPR (The Big Dipper?); in addition, having T first does not mean that I have a Thinking Function as my first Nootypological Function, or Catalyst; it means that I use T a lot regardless of which Functions I use or what purpose they serve. It is for this same reason that an INTP may have a higher N score than a T score while having Ti as a Referential Function, as is so with any Nootype and its Functions, and partially because self-awareness is a problem, such that Cognitrics and Nootypology remain largely philosophical studies rather than psychological ones, as they seek to explain the mind with fundamental logic rather than circumstantial evidence. I will use the standard order of letters for Nootypes in this book, however, to prevent confusion.

Leaders get energy from the public, and don't accommodate their self or others the way Introverts and Extraverts do.

Organizers do not necessarily judge or perceive as they work.

An example to illustrate the two Organizers is as follows: A Generator might be the first runner, perhaps seeing value where others do not, whereas an Achiever would be the fastest runner, and would want social status.

C and R determine the Main Function Order. B and M determine the Main Function Temperaments.

Bridging - combining different ideas.

BL - l e i

BE - e i l

BI - i l e

e to i - encouraging diversity.

i to l - volunteering contributions.

l to e - networking extensively.

Maximizing - amplifying unique potential.

MI - i e l

ME - e l i

ML - l i e

i to e - encouraging strengths.

e to l - monitoring continuously.

l to i - providing feedback.

Challenging - having rigid beliefs.

CJ - j p o

CP - p o j

CO - o j p

j to p - accumulating evidence.

p to o - encouraging regularity.

o to j - correcting problems.

Realizing - having flexible beliefs.

RO - o p j

RP - p j o

RJ - j o p

p to j - assessing conditions.

j to o - adjusting situationally.

o to p - noticing change.

I, a GDTRBPI, have Main Functions Di Tl Ge.

In addition to the Cognietric Functions, there are 10 additional Nootype Functions for increased interactions.

Gi Designing

Ai Measuring

Ge Solving

Ae Inspiring

Fl Balancing

Tl Developing

Sl Coordinating

Dl Preparing

Gl Supporting

Al Advising

For Main Functions Az Cy Ex where A complements B, C complements D, and E complements F,
the Order is:

Az Cy Ex Main

Fx Dy Bz Auxiliary

Cz Ey Ax Optimistic Desire

Bx Fy Dz Pessimistic Desire

Ez Ay Cx Optimistic Necessity

Dx By Fz Pessimistic Necessity

First Column - Catalyst (Past)

Second Column - Method (Present)

Third Column - Goal (Future)

Cognietric Types socialize with the Reaction Function. As babies are heavily reliant on adults and are not yet independent, it is the extraverted Function that is formed first. The Reaction Preference determines it because it is already fully formed by this time - decisive babies will promote success with either emotional or logical preconsiderations, and indecisive babies will heavily engage the tools of success once they imagine or find them. Occasionally they will have to assure others by taking personal responsibility for an alternative Contemplation Function that balances the initial decisive control (Je) or comprehensive study (Pe). If Contemplation afterwards is used as a position of Reference, this indicates introspection, so the tendency is towards being Introverted. If it continues secondarily as Responsibility, this indicates engagement, and thus Extraversion. This shows that the Values are more psychologically fundamental than the Manners when determining the Preferences, because the Id Functions are never once considered in the process of determining the Reaction. This arrangement is forgotten with age and

replaced with Nootype Functions. The Nootype integrates leadership where it is most successful, either judgment, perception, or organization. Introverted and extraverted Functions are then similarly chosen and the three are arranged in a useful Order starting with the most meaningful. Cognietrics is therefore useful for small children as a means of learning and simultaneously imposing a degree of regularity on their intentions. They use a Cognietrics Type when young and a Nootype more as they mature by learning the value of organization and leadership.

There are 18 Nootypes for every Cognietric Type. A Cognietric Type with Functions Az By corresponds to the following Nootypes where O can equal A or G:

OI Az By

Az OI By

Az By OI

Az Oy BI

Az BI Oy

Oy Az BI

AI Oz By

AI By Oz

Oz AI By

*Oz By AI is not one, but is often used for anonymity.

Similar to the Cognietric Personas are the Nootypological Personas:

Realizing

D to T - Proof

D to F - Application

S to T - Adaptation

S to F - Priority

T to G - Tactic

T to A - Calculation

F to G - Wonder

F to A - Incentive

G to D - Insight

G to S - Option

A to D - Expansion

A to S - Review

Challenging

T to D - Thesis

T to S - Research

F to D - Standardization

F to S - Promotion

D to G - Conception

D to A - Foresight

S to G - Response

S to A - Engagement

G to T - Usefulness

G to F - Characterization

A to T - Improvement

A to F - Endorsement

There are also Nootypological Triads, though these represent social values.

Spiritualists (Givers)

MC - Believers

BR - Ambassadors

Materialists (Takers)

MR - Coaches

BC - Conquerors

Classicists (Conservative)

DT - Analysts

SF - Guardians

Progressives (Liberal)

DF - Idealists

ST - Inspectors

Operators (Skilled)

GF - Writers

AT - Technicians

Manufacturers (Influential)

GT - Architects

AF - Speakers

Activists (Liberating)

GD - Artists

AS - Warriors

Authorities (Controlling)

GS - Trainers

AD - Executives

Classicists are Governors, or Operating Authorities attempting to maintain the status quo, and Investors, or Manufacturing Activists pursuing the continuation of profitable projects. Progressives are Capitalists, or Manufacturing Authorities in competition, and Socialists, or Operating Activists looking for advancement.

Governors do not have Investor Ideal Matches and Capitalists do not have Socialist Ideal Matches, primarily because each wants to maintain or alter something in the opposite manner with respect to what the other party desires. These niches are useful in that the associated Nootypes would not otherwise get along, and so do not represent stagnation.

Ideal Match:

First Letter - opposite

Second Letter - opposite

Third Letter - opposite

Fourth Letter - same

Fifth Letter - opposite

Sixth Letter - same

Seventh Letter - L if L, I if E, E if I

The letter "L" does not change because leadership styles should not Complement each other; this would detract from either one as for the two Je or Fx Functions.

Generally, Nootypological Relationships improve as similar Functions to the Ideal Match move higher in the Order:

To calculate Compatibility Percentage:

For Ideal Match Functions:

A B C

D E F

G H I

J K L

M N O

P Q R

Set $A = \sqrt{18}$, $B = \sqrt{17}$, ... , $Q = \sqrt{2}$, $R = \sqrt{1}$.

To calculate the Compatibility Percentage for a Nootype with Functions:

N I C

J Q O...

Calculate $(100/(18 + 17 + 16 + \dots + 3 + 2 + 1)) * (\sqrt{5} * \sqrt{18} + \sqrt{10} * \sqrt{17} + \sqrt{16} * \sqrt{16} \dots)$.

Nootypological Functions correspond to Enneagram numbers. The order of influence of the Functions corresponds to the order of the numbers. I will explain it here, though like the Triads, it represents an evolutionary niche that gives only satisfactory control over a number of associated strategies.

The Main Function Order roughly corresponds to Enneagram Tritype.

Each number behaves as follows to balance the behaviors of the numbers immediately before and after it:

Balance of Forces

Je 1 Consultant - balancing mediation with campaigning.

Pe 2 Campaigner - balancing consultation with entrepreneurship.

Pl 3 Entrepreneur - balancing campaigning with individualism.

Pi 4 Individualist - balancing entrepreneurship with examination.

Oi 5 Examiner - balancing individualism with loyalty.

Oe 6 Loyalist - balancing examination with motivation.

Ol 7 Motivator - balancing loyalty with dare.

Jl 8 Darer - balancing motivation with mediation.

Ji 9 Mediator - balancing dare with consultation.

The Enneagram numbers represent strategies which the Nootype Functions assist. Wings represent an imbalance of tendencies that favors one force over the other. Introverted Functions correspond to withdrawn numbers, extraverted Functions correspond to compliant numbers, and leading Functions correspond to assertive numbers. Organizing Functions are located in the Head Center due to justifiability. Perceiving Functions are located in the Heart Center due to openness. Judging Functions are located in the Gut Center due to decisiveness. The middle of each Center suppresses it. Enneagram Tritypes choose a Head number, a Heart number, and a Gut number, with Wings, in any order. In Enneagram there are also Social (who are looking for approval), Sexual (who are looking for chemistry), and Self-Preserving (who are looking for material comfort) Enneagram Subtype Instincts, but they have no anticipated correlation to Nootypology. Moving forward numerically on the diagram is Challenging due to the independent influence of the next balancing force, and within a Center it is Maximizing due to the completion of the Center's influence. The forward direction shows increases in computational complexity: Organizing forces move from Generation to Achievement; Perceiving forces move from Sensation to Dreaming; Judging forces move from Feeling to Thought. The Bridging and Realizing directions allow receptivity to other ideas at a more basic level of familiarity.

1w9 Fe
1w2 Te
2w1 Se
2w3 De
3w2 Sl
3w4 Dl
4w3 Si
4w5 Di
5w4 Gi
5w6 Ai
6w5 Ge
6w7 Ae
7w6 Gl
7w8 Al
8w7 Fl
8w9 Tl
9w8 Fi
9w1 Ti

Notice that not all Enneagram Tritype strategies exist as a Nootype; for instance, 1w9-2w1-6w5 corresponds to Fe Se Ge. While there are only 288 Nootypes, there are 1,296 Enneagram Tritypes, and for each Tritype there are six possible Instinctual Subtype Stackings. However, each correlation represents a niche and is not absolute, but can be useful. The strategies employed by the Enneagram Tritypes often require a fresh look and for that reason a Nootype will achieve more success with a Tritype that does not directly correlate to the Nootype Functions. For instance, I prefer to act as a 5w4-9w1-3w4 so/sp/sx, or Individualist Examiner, Consulting Mediator, and Individualist Entrepreneur, which while correlating to

Designing, Aetiological, and Preparing strategies may be assisted instead by my Nootype's Statistical, Developing, and Solving Functions.

The complexity that is brought by increasing Enneagram numbers shows that:

Socialists Judge and Organize, or Perceive.

Capitalists Perceive and Organize, or Judge.

Investors Judge and Perceive, or Organize.

Governors Judge, Perceive, and Organize, or are completely open to new ideas.

The future of cognietrics can follow three paths. In anticognietrics, there would be a reason why someone intuitive and quick to decide would be considered reasonable. In expanded cognietrics, additional traits beyond the original thirty would illuminate other aspects of the philosophical concepts in a web of similarly mutually interdependent definitions; I think that artificial intelligence would be helpful here (there is already a text classifier at <https://www.uclassify.com/browse/g4mes543/myers-briggs-type-indicator-text-analyzer?input=Url> that identifies the author's type from a text sample), since factor analysis of the dictionary has yielded the Big 5, which correlate to the four Jungian preferences as found by A. Furnham in 1996 ([https://doi.org/10.1016/0191-8869\(96\)00033-5](https://doi.org/10.1016/0191-8869(96)00033-5)) and a measure of mental health. Lastly, alternate cognietrics would illuminate unrelated verbal systems using the same architecture as cognietrics. You should now feel as though you have a solid understanding of each Type and its Relationships. Hopefully, what you have learned you will take with you so that it may serve you in your quest for knowledge and other related endeavors.

Happy Typing!

Alon Oscar Deutsch

About the Author

The theory of Cognietrics was created by Alon Oscar Deutsch, an INTJ. Reading from age 3, he was a top point scorer (even winning arguments with judges) on his elementary school's book trivia team, which achieved a 1 of 23 ranking in the "Sunshine State Battle of the Books" trivia competition. A composer who began writing music at age 12 (including music for every Myers-Briggs type), he also performed with the varsity jazz band and was offered a record deal for his works. He first took an interest in Jung during a high school psychology class and began studying Myers-Briggs types towards the end of college, during which he took upper-level psychology electives such as Behavior Modification and Animal Behavior and philosophy electives such as Critical Thinking and Theory of Knowledge, all while conducting research laboratory experiments in molecular biophysics, neurochemistry, and optics, and later graduating with a degree in mathematics and physics. He was a National Merit Scholar and an Advanced Placement Scholar with Distinction in high school, a member of the Golden Key International Honour Society in college, and after scoring in the 99th percentile on the ASVAB he graduated top of his class from the United States Navy nuclear program, going on to serve aboard a nuclear submarine as a nuclear reactor operator. He is also a member of the International Society for Philosophical Enquiry, which represents the 99.9th percentile of IQ and standardized testing and is the oldest functioning genius-level intelligence network.

Appendix

The Reason for Jungian Typology

Heraclitus said, “if there is one thing that is immutable, it is change”. Naturally our responses to such an unpredictable idea differ as they evolve to meet it. We may ask:

Should I be concerned with specific (Introverted) or general (Extraverted) change? This is important because the very concept of change implies degrees of change.

Should I respond to change (Sensing) or initiate it (iNtuiting)? This is important because we are both agents and experiencers of change.

Should I work to change things based on things that aren’t changing (Thinking) or slow things that are (Feeling)? This is important because change can be positive or negative.

Should I act before (Judger) or after (Perceiver) change? This is important because changes may bring about other changes.

I believe that the exploration of the degrees of change (IE) reflects changes in things that have not functionally changed from each other, whereas the exploration of the results of change (JP) reflects changes in things that have functionally changed from each other. This distinction in categorization is what allows us to define both the observational differences that prevent vagueness and the utilitarian implications that prevent triviality, both of which comprise change, so both are quite important.

I believe that the ability to experience and respond to change (SN) reflects the recognition of change, that implies change in the universe and which alone would seem hopeless, and the ability to slow or hasten change (TF) reflects the ability for deliberateness, that implies lack of change in the universe and which alone would seem meaningless. The combination is what makes change important to our species.

These ideas, the defining and motivating aspects of change handled by the preferences that are the minimum needed to organize one’s mind, show that it is real and important, and collectively manifest in the immutable aspects of our existence. For this reason I think that the four Myers-Briggs dichotomies are both necessary and sufficient for categorizing psychological preference.

Function Questions

Ni/Se - what forces are acting?

Ne/Si - what can I do?

Pi - what affects me?

Pe - what can others teach me?

N - what may occur?

S - what is happening?

Ti/Fe - is this valuable?

Te/Fi - will this succeed?

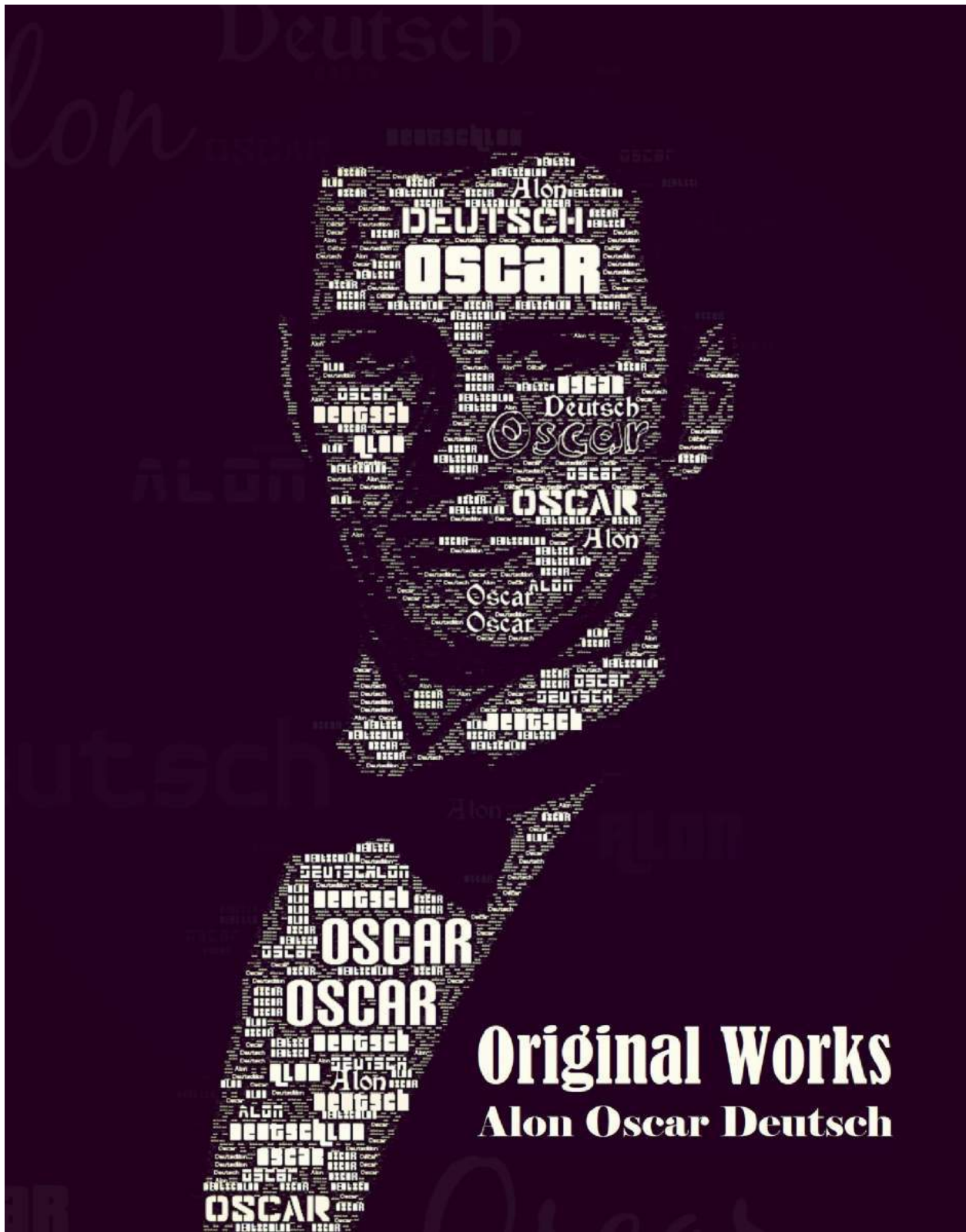
Ji - am I achieving goals?

Je - can we do better?

T - does this make sense?

F - is this important?

*Introverts primarily use the introverted function and extraverts primarily use the extraverted function. Judgers introvert perception to minimize its effect on their behavior while still allowing them to check things thoroughly on the go. Perceivers introvert judgment to minimize its effect on their behavior while still allowing them to make the most of opportunities as they observe. Extraverts lead with the reaction function to build trust; introverts use the reaction function and its complement together only to overcome obstacles. It helps to think of the judging function as a selection function and the perceiving function as a recognition function, such that judgers extravert selection and introvert recognition, and perceivers extravert recognition and introvert selection, to prevent confusion. This way inventors refer to their recognition and select responsibly and discoverers refer to their selection and recognize responsibly. Recognition leads to reason or resolutions, observation or association, and induction or deduction, whereas selection is due to curiosity or seriousness, reform or administration, and knowledge or understanding.



Original Works
Alon Oscar Deutsch

Original Works

ALON OSCAR DEUTSCH

“This is the quality of composition I would expect from Mozart...I could not compose something like that.”
- Anton Anderssen, Concert Pianist, July 2020

"If a composer could say what he had to say in words he would not bother trying to say it in music."

- Gustav Mahler (7 July 1860 – 18 May 1911)

Violin Concerto No. 1 in Am "Four Winds", Op. 1

I. East Wind

Alon Oscar Deutsch

Violin

Viola

Cello

Bass

$\text{♩} = 108$

4

Vln.

Vla.

Cell.

Bass

7

Vln.

Vla.

Cell.

Bass

10

Vln.

Vla.

Cell.

Bass

12

Vln.

Vla.

Cell.

Bass

15

Vln.

Vla.

Cell.

Bass

19

Vln.

Vla.

Cell.

Bass

This system contains measures 19, 20, and 21. The Violin part (Vln.) begins with a rapid sixteenth-note run in measure 19, followed by a melodic line with slurs and accents. The Viola (Vla.) part has a more sparse, rhythmic accompaniment. The Cello (Cell.) and Bass parts enter in measure 20 with a rhythmic pattern of eighth notes, with the Bass providing a steady harmonic foundation.

22

Vln.

Vla.

Cell.

Bass

This system contains measures 22, 23, and 24. The Violin part continues its melodic development with slurs and accents. The Viola part has a more active role, with a melodic line that includes slurs and accents. The Cello part has a melodic line with slurs and accents, while the Bass part provides a steady harmonic foundation with a rhythmic pattern of eighth notes.

25

Vln.

Vla.

Cell.

Bass

This system contains measures 25, 26, and 27. The Violin part features a complex, rapid sixteenth-note run in measure 25, followed by a melodic line with slurs and accents. The Viola part has a rhythmic accompaniment. The Cello part has a melodic line with slurs and accents, while the Bass part provides a steady harmonic foundation with a rhythmic pattern of eighth notes.

27

Vln.

Vla.

Cell.

Bass

30

Vln.

Vla.

Cell.

Bass

34

Vln.

Vla.

Cell.

Bass

38

Vln.

Vla.

Cell.

Bass

41

Vln. Vla. Cell. Bass

This system contains measures 41 and 42. The Violin part (Vln.) has a melodic line with eighth-note patterns. The Viola (Vla.), Cello (Cell.), and Bass parts are silent, indicated by horizontal lines with dashes.

43

Vln. Vla. Cell. Bass

This system contains measures 43 and 44. The Viola (Vla.) and Cello (Cell.) parts have melodic lines with eighth-note patterns. The Violin (Vln.) and Bass parts are silent, indicated by horizontal lines with dashes.

45

Vln. Vla. Cell. Bass

This system contains measures 45 and 46. The Violin (Vln.) and Viola (Vla.) parts have melodic lines with eighth-note patterns. The Cello (Cell.) and Bass parts have melodic lines with eighth-note patterns.

Violin Concerto No. 1 in Am "Four Winds", Op. 1

II. North Wind

Alon Oscar Deutsch

Violin

Viola

$\text{♩} = 90$

5

Vln.

Vla.

11

Vln.

Vla.

15

Vln.

Vla.

20

Vln.

Vla.

25

Vln.

Vla.

Violin Concerto No. 1 in Am "Four Winds", Op. 1

III. West Wind

Alon Oscar Deutsch

Violin

Viola

Cello

$\text{♩} = 56$

Violin: Treble clef, 4/4 time, key signature of three sharps (F#, C#, G#). Measure 1: quarter note G#4, quarter note A4, quarter note B4, quarter rest. Measure 2: quarter note C5, quarter note B4, quarter note A4, quarter note G#4.

Viola: Bass clef, 4/4 time, key signature of three sharps. Measure 1: quarter note G#3, quarter note A3, quarter note B3, quarter note C4. Measure 2: quarter note D4, quarter note E4, quarter note F#4, quarter note G#4.

Cello: Bass clef, 4/4 time, key signature of three sharps. Measure 1: quarter note G#2, quarter note A2, quarter note B2, quarter note C3. Measure 2: quarter note D3, quarter note E3, quarter note F#3, quarter note G#3.

3

Vln.

Vla.

Cell.

Vln.: Treble clef, 4/4 time, key signature of three sharps. Measure 3: quarter note G#4, quarter note A4, quarter note B4, quarter note C5. Measure 4: quarter note B4, quarter note A4, quarter note G#4, quarter note F#4.

Vla.: Bass clef, 4/4 time, key signature of three sharps. Measure 3: quarter note G#3, quarter note A3, quarter note B3, quarter note C4. Measure 4: quarter note D4, quarter note E4, quarter note F#4, quarter note G#4.

Cell.: Bass clef, 4/4 time, key signature of three sharps. Measure 3: quarter note G#2, quarter note A2, quarter note B2, quarter note C3. Measure 4: quarter note D3, quarter note E3, quarter note F#3, quarter note G#3.

5

Vln.

Vla.

Cell.

Vln.: Treble clef, 4/4 time, key signature of three sharps. Measure 5: quarter note G#4, quarter note A4, quarter note B4, quarter note C5. Measure 6: quarter note B4, quarter note A4, quarter note G#4, quarter note F#4.

Vla.: Bass clef, 4/4 time, key signature of three sharps. Measure 5: quarter note G#3, quarter note A3, quarter note B3, quarter note C4. Measure 6: quarter note D4, quarter note E4, quarter note F#4, quarter note G#4.

Cell.: Bass clef, 4/4 time, key signature of three sharps. Measure 5: quarter note G#2, quarter note A2, quarter note B2, quarter note C3. Measure 6: quarter note D3, quarter note E3, quarter note F#3, quarter note G#3.

7

Vln.

Vla.

Cell.

This system contains measures 7 and 8. The Violin part (Vln.) is in the treble clef, the Viola part (Vla.) is in the alto clef, and the Cello part (Cell.) is in the bass clef. All three parts are in a key signature of three sharps (F#, C#, G#) and a 3/4 time signature. Measure 7 features a complex rhythmic pattern with many sixteenth and thirty-second notes. Measure 8 continues this pattern with some longer note values.

9

Vln.

Vla.

Cell.

This system contains measures 9 and 10. The Violin part (Vln.) is in the treble clef, the Viola part (Vla.) is in the alto clef, and the Cello part (Cell.) is in the bass clef. All three parts are in a key signature of three sharps (F#, C#, G#) and a 3/4 time signature. Measure 9 shows a continuation of the rhythmic complexity from the previous system. Measure 10 features a more melodic line in the Violin part, while the Viola and Cello parts continue with rhythmic accompaniment.

11

Vln.

Vla.

Cell.

This system contains measures 11 and 12. The Violin part (Vln.) is in the treble clef, the Viola part (Vla.) is in the alto clef, and the Cello part (Cell.) is in the bass clef. All three parts are in a key signature of three sharps (F#, C#, G#) and a 3/4 time signature. Measure 11 shows a more melodic line in the Violin part, while the Viola and Cello parts continue with rhythmic accompaniment. Measure 12 features a more melodic line in the Viola part, while the Violin and Cello parts continue with rhythmic accompaniment.

13

Vln.

Vla.

Cell.

This system contains measures 13 and 14. The Violin part (Vln.) is in the treble clef, the Viola part (Vla.) is in the alto clef, and the Cello part (Cell.) is in the bass clef. All three parts are in a key signature of three sharps (F#, C#, G#) and a 3/4 time signature. Measure 13 shows a more melodic line in the Violin part, while the Viola and Cello parts continue with rhythmic accompaniment. Measure 14 features a more melodic line in the Viola part, while the Violin and Cello parts continue with rhythmic accompaniment.

15

Vln.

Vla.

Cell.

This system contains measures 15 and 16. The Violin part (Vln.) features a melodic line with eighth and sixteenth notes, including some triplets. The Viola part (Vla.) has a more rhythmic, eighth-note pattern. The Cello part (Cell.) provides a steady accompaniment with eighth notes. The key signature has four sharps (F#, C#, G#, D#).

17

Vln.

Vla.

Cell.

This system contains measures 17 and 18. The Violin part (Vln.) continues with a melodic line, showing some rests. The Viola part (Vla.) has a simpler, more spaced-out line. The Cello part (Cell.) maintains the eighth-note accompaniment. The key signature remains four sharps.

19

Vln.

Vla.

Cell.

This system contains measures 19 and 20. The Violin part (Vln.) has a more active melodic line with eighth notes. The Viola part (Vla.) has a line with some rests and eighth notes. The Cello part (Cell.) continues with the eighth-note accompaniment. The key signature remains four sharps.

21

Vln.

Vla.

Cell.

This system contains measures 21 and 22. The Violin part (Vln.) has a melodic line with eighth notes. The Viola part (Vla.) has a line with some rests and eighth notes. The Cello part (Cell.) continues with the eighth-note accompaniment. The key signature remains four sharps.

Vln.

Vla.

Cell.

This musical score consists of three staves: Violin (Vln.), Viola (Vla.), and Cello (Cell.). The key signature is three sharps (F#, C#, G#) and the time signature is 3/4. The Violin part (top staff) features a melodic line with eighth and sixteenth notes, including some grace notes. The Viola part (middle staff) has a few notes in the first measure followed by a whole rest in the second measure. The Cello part (bottom staff) plays a rhythmic accompaniment of eighth notes in the first measure, followed by a whole rest in the second measure. The score concludes with a double bar line.

Violin Concerto No. 1 in Am "Four Winds", Op. 1

IV. South Wind

Alon Oscar Deutsch

Violin *f* $\text{♩} = 56$

Viola *f*

Cello *f*

Bass *f*

3

Vln.

Vla.

Cell.

Bass

5

Vln.

Vla.

Cell.

Bass

6

Vln.

Vla.

Cell.

Bass

This system contains measures 6, 7, and 8. The music is in 3/4 time with a key signature of three sharps (F#, C#, G#). Measure 6 features a complex melodic line in the violin with many accidentals. The viola and cello play rhythmic accompaniment, while the bass provides a steady bass line.

9

Vln.

Vla.

Cell.

Bass

This system contains measures 9 and 10. In measure 9, the violin has a melodic line with a double bar line. In measure 10, the violin and viola play a more active, rhythmic passage. The cello and bass continue their accompaniment.

11

Vln.

Vla.

Cell.

Bass

This system contains measures 11, 12, and 13. Measure 11 shows the violin with a melodic line. Measure 12 has a double bar line. Measure 13 features a pizzicato section for both the cello and bass, indicated by the "pizz." marking. The violin and viola play sustained notes.

14

Vln.

Vla.

Cell.

Bass

arco

This system contains measures 14, 15, and 16. The Vln. part features a melodic line with eighth and sixteenth notes. The Vla. part has a similar melodic line with some slurs. The Cell. part is marked 'arco' and plays a steady eighth-note accompaniment. The Bass part is also marked 'arco' and plays a simple eighth-note line. The key signature has three sharps (F#, C#, G#).

17

Vln.

Vla.

Cell.

Bass

3:2

This system contains measures 17 and 18. In measure 17, the Vln. part has a complex, fast-moving melodic line with many slurs. The Vla. part has a melodic line with some slurs. The Cell. part plays a rhythmic pattern of eighth notes. The Bass part has a long note with a '3:2' ratio indicated above it. In measure 18, the Vln. part continues with a melodic line. The Vla. part has a few notes. The Cell. part has a few notes. The Bass part has a few notes. The key signature has three sharps (F#, C#, G#).

19

Vln.

Vla.

Cell.

Bass

This system contains measures 19 and 20. The Vln. part has a melodic line with eighth and sixteenth notes. The Vla. part has a melodic line with eighth notes. The Cell. part has a melodic line with eighth notes. The Bass part has a melodic line with eighth notes. The key signature has three sharps (F#, C#, G#).

21

Vln.

Vla.

Cell.

Bass

This system contains measures 21 and 22. The music is in a key with three sharps (F#, C#, G#) and a 3/4 time signature. Measure 21 features a dense texture with a violin playing a rapid sixteenth-note scale, a viola playing a similar but slower scale, a cello playing a steady eighth-note accompaniment, and a bass playing a simple quarter-note line. Measure 22 shows the violin and viola continuing their melodic lines, while the cello and bass provide harmonic support with sustained notes and rhythmic patterns.

23

Vln.

Vla.

Cell.

Bass

This system contains measures 23 and 24. In measure 23, the violin has a more melodic role with a dotted quarter note followed by an eighth note. The viola plays a rhythmic pattern of eighth notes. The cello and bass continue their accompaniment. Measure 24 features a more active violin line with eighth notes and a sixteenth-note run. The viola and cello play chords and moving lines, while the bass maintains a steady quarter-note accompaniment.

25

Vln.

Vla.

Cell.

Bass

This system contains measures 25, 26, and 27. Measure 25 shows the violin playing a melodic phrase with a sharp sign above it. The viola and cello play chords and moving lines. Measure 26 features a violin rest, with the viola and cello playing chords and moving lines. The bass plays a quarter-note accompaniment. Measure 27 shows the violin playing a melodic phrase, with the viola and cello playing chords and moving lines. The bass plays a quarter-note accompaniment.

28

Vln.

Vla.

Cell.

Bass

This system contains measures 28 and 29. The Vln. part begins with a rest in measure 28, followed by a melodic line in measure 29. The Vla. part has a rest in measure 28 and a melodic line in measure 29. The Cell. and Bass parts have continuous melodic lines across both measures. The key signature is three sharps (F#, C#, G#) and the time signature is 3/4.

30

Vln.

Vla.

Cell.

Bass

This system contains measures 30 and 31. The Vln. part has a melodic line in measure 30 and a more complex, rhythmic line in measure 31. The Vla. part has a melodic line in measure 30 and a more complex, rhythmic line in measure 31. The Cell. and Bass parts have continuous melodic lines across both measures. The key signature is three sharps (F#, C#, G#) and the time signature is 3/4.

32

Vln.

Vla.

Cell.

Bass

This system contains measures 32 and 33. The Vln. part has a melodic line in measure 32 and a more complex, rhythmic line in measure 33. The Vla. part has a melodic line in measure 32 and a more complex, rhythmic line in measure 33. The Cell. and Bass parts have continuous melodic lines across both measures. The key signature is three sharps (F#, C#, G#) and the time signature is 3/4.

34

Vln. *ff*

Vla. *ff*

Cell. *ff*

Bass *ff*

36

Vln.

Vla.

Cell.

Bass

38

Vln.

Vla.

Cell.

Bass

40

Vln.

Vla.

Cell.

Bass

This system contains measures 40 and 41. The Violin part (Vln.) is in treble clef with a key signature of three sharps (F#, C#, G#). It features a melodic line with eighth and sixteenth notes, including a triplet in measure 41. The Viola (Vla.) part is in alto clef, playing a similar melodic line. The Cello (Cell.) part is in bass clef, providing a harmonic accompaniment with dotted rhythms. The Bass part is also in bass clef, featuring a steady eighth-note accompaniment.

42

Vln.

Vla.

Cell.

Bass

This system contains measures 42 and 43. The Violin part (Vln.) continues the melodic line with eighth notes and rests. The Viola (Vla.) part has a more active role with sixteenth-note patterns. The Cello (Cell.) part features a complex rhythmic pattern with sixteenth-note runs. The Bass part continues with a steady eighth-note accompaniment.

44

Vln.

Vla.

Cell.

Bass

This system contains measures 44 and 45. The Violin part (Vln.) has a more active melodic line with sixteenth-note runs. The Viola (Vla.) part continues with sixteenth-note patterns. The Cello (Cell.) part has a simpler accompaniment with dotted rhythms. The Bass part continues with a steady eighth-note accompaniment.

46

Vln.

Vla.

Cell.

Bass

48

Vln.

Vla.

Cell.

Bass

fff

50

Vln.

Vla.

Cell.

Bass

52

Vln.

Vla.

Cell.

Bass

This system contains measures 52 and 53. The Vln. part features a melodic line with eighth and sixteenth notes, including a triplet in measure 52. The Vla. part has a similar melodic line with some rests. The Cell. part provides a steady bass line with eighth notes. The Bass part has a few notes, including a half note in measure 53.

54

Vln.

Vla.

Cell.

Bass

This system contains measures 54 and 55. The Vln. part continues with a melodic line, featuring a half note in measure 55. The Vla. part has a melodic line with eighth notes. The Cell. part has a melodic line with eighth notes. The Bass part has a few notes, including a half note in measure 55.

56

Vln.

Vla.

Cell.

Bass

This system contains measures 56 and 57. The Vln. part has a melodic line with eighth notes. The Vla. part has a melodic line with eighth notes. The Cell. part has a melodic line with eighth notes. The Bass part has a few notes, including a half note in measure 57.

58

Vln.

Vla.

Cell.

Bass

60

Vln.

Vla.

Cell.

Bass

62

Vln.

Vla.

Cell.

Bass

64

Vln.

Vla.

Cell.

Bass

Detailed description: This system contains measures 64, 65, and 66. The key signature is three sharps (F#, C#, G#) and the time signature is 3/4. The Violin part (Vln.) starts with a quarter rest in measure 64, followed by a quarter note in measure 65, and a quarter note in measure 66. The Viola part (Vla.) plays a continuous eighth-note pattern throughout. The Cello part (Cell.) plays a descending eighth-note pattern in measure 64, followed by a quarter note in measure 65, and a quarter note in measure 66. The Bass part (Bass) has a whole rest in measure 64, followed by a half note in measure 65, and a half note in measure 66.

67

Vln.

Vla.

Cell.

Bass

fff

Detailed description: This system contains measures 67, 68, 69, and 70. The key signature is three sharps (F#, C#, G#) and the time signature is 3/4. The Violin part (Vln.) plays a series of eighth notes in measure 67, followed by a quarter note in measure 68, and a quarter note in measure 69. The Viola part (Vla.) plays a continuous eighth-note pattern throughout. The Cello part (Cell.) plays a descending eighth-note pattern in measure 67, followed by a quarter note in measure 68, and a quarter note in measure 69. The Bass part (Bass) plays a descending eighth-note pattern in measure 67, followed by a quarter note in measure 68, and a quarter note in measure 69. The dynamic marking *fff* (fortissimo) is present in measures 68, 69, and 70.

Piano Concerto No. 1 in Fm, Op. 2

I. Allegro

Alon Oscar Deutsch

Allegro (♩ = 120)

Musical score for Piano, Violins, Violas, Cellos, and Basses. The score is in 4/4 time and F major. The Piano part is mostly silent. The Violins play a melodic line starting with a half note G4, followed by quarter notes A4, B4, and C5. The Violas play a rhythmic accompaniment of eighth notes. The Cellos and Basses play a similar rhythmic accompaniment. The key signature has one flat (F major).

Musical score for Piano, Violins, Violas, Cellos, and Basses, starting at measure 8. The Piano part has a melodic line starting with a half note G4, followed by quarter notes A4, B4, and C5. The Violins play a rhythmic accompaniment of eighth notes. The Violas play a similar rhythmic accompaniment. The Cellos and Basses play a similar rhythmic accompaniment. The key signature has one flat (F major).

14

Pn.

Vln.

Vla.

Cell.

Bass

16

Pn.

Vln.

Vla.

Cell.

Bass

18

Pn.

Vln.

Vla.

Cell.

Bass

Musical score for measures 18-19. The piano part features a complex melodic line with multiple triplets in the right hand and a rhythmic accompaniment in the left hand. The strings are silent.

20

Pn.

Vln.

Vla.

Cell.

Bass

Musical score for measures 20-22. The piano part continues with a melodic line in the right hand and a rhythmic accompaniment in the left hand. The strings remain silent.

23

Pn.

Vln.

Vla.

Cell.

Bass

Detailed description: This system covers measures 23 and 24. The piano part (Pn.) is the only active instrument. In measure 23, the right hand has a melodic line starting on a whole note G4, moving to a half note F4, and then a quarter note E4. The left hand has a rhythmic accompaniment of eighth notes: G3, F3, E3, D3, C3, B2, A2, G2. In measure 24, the right hand has a more complex melodic line with many beamed notes, while the left hand continues with a similar rhythmic pattern. The string parts (Vln., Vla., Cell., Bass) are all silent, indicated by a horizontal line with a bar through it.

25

Pn.

Vln.

Vla.

Cell.

Bass

Detailed description: This system covers measures 25, 26, 27, and 28. The piano part (Pn.) is the only active instrument. In measure 25, the right hand has a melodic line starting on a whole note G4, moving to a half note F4, and then a quarter note E4. The left hand has a rhythmic accompaniment of eighth notes: G3, F3, E3, D3, C3, B2, A2, G2. In measure 26, the right hand has a more complex melodic line with many beamed notes, while the left hand continues with a similar rhythmic pattern. In measure 27, the right hand has a melodic line starting on a whole note G4, moving to a half note F4, and then a quarter note E4. The left hand has a rhythmic accompaniment of eighth notes: G3, F3, E3, D3, C3, B2, A2, G2. In measure 28, the right hand has a melodic line starting on a whole note G4, moving to a half note F4, and then a quarter note E4. The left hand has a rhythmic accompaniment of eighth notes: G3, F3, E3, D3, C3, B2, A2, G2. The string parts (Vln., Vla., Cell., Bass) are all silent, indicated by a horizontal line with a bar through it.

Pn.

Vln.

Vla.

Cell.

Bass

Pn.

Vln.

Vla.

Cell.

Bass

36

Pn.

Vln.

Vla.

Cell.

Bass

42

Pn.

Vln.

Vla.

Cell.

Bass

46

Pn.

Vln.

Vla.

Cell.

Bass

48

Pn.

Vln.

Vla.

Cell.

Bass

52

Pn.

Vln.

Vla.

Cell.

Bass

Detailed description: This system covers measures 52, 53, and 54. The piano part (Pn.) is highly active, featuring a dense texture of beamed eighth and sixteenth notes, often in chords. The strings (Vln., Vla., Cell., Bass) are mostly silent, indicated by horizontal lines on their staves. The key signature is three flats (B-flat, E-flat, A-flat).

55

Pn.

Vln.

Vla.

Cell.

Bass

Detailed description: This system covers measures 55, 56, 57, and 58. The piano part (Pn.) is mostly silent, with a few notes in measure 55. The strings (Vln., Vla., Cell., Bass) have a melodic line starting in measure 57, consisting of a sequence of eighth notes. The key signature remains three flats.

Pn.

Vln.

Vla.

Cell.

Bass

Detailed description: This is a page of a musical score for five instruments: Piano (Pn.), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The page is numbered 59 in the top left corner. The key signature for all parts is three flats (B-flat, E-flat, A-flat). The Piano part consists of two staves. In the first measure, both staves have a whole rest. In the second measure, the right hand plays a descending eighth-note sequence: B-flat4, A-flat4, G4, F4, E-flat4, D4. The left hand has a whole rest. The Violin part has one staff. In the first measure, it plays a series of eighth notes: G4, A4, B-flat4, A4, G4, F4, E-flat4, D4. In the second measure, it has a whole rest. The Viola, Cello, and Bass parts each have one staff and have whole rests in both measures. The score ends with a double bar line at the end of the second measure.

Piano Concerto No. 1 in Fm, Op. 2

II. Adagio

Alon Oscar Deutsch

Adagio (♩ = 75)

Piano

Musical score for Piano, measures 1-4. The score is in F major (three flats) and 4/4 time. It features a piano introduction with chords in the right hand and a melodic line in the left hand.

Pn.

Musical score for Piano, measures 5-7. The score continues with a melodic line in the right hand and a rhythmic accompaniment in the left hand.

Pn.

Musical score for Piano, measures 8-10. The score continues with a melodic line in the right hand and a rhythmic accompaniment in the left hand.

Pn.

Musical score for Piano, measures 11-14. The score features triplets in the right hand and a melodic line in the left hand.

Pn.

Musical score for Piano, measures 15-18. The score continues with a melodic line in the right hand and a rhythmic accompaniment in the left hand.

Piano Concerto No. 1 in Fm, Op. 2

III. Andante

Alon Oscar Deutsch

Andante (♩ = 90)

The score is written for Piano, Horn in F, Bass Clarinet in Bb, and Piano (Pn.). It is in 4/4 time and the key signature is two flats (F major/D minor). The tempo is marked "Andante" with a quarter note equal to 90 beats per minute. The score is divided into three systems, each containing a piano part and three woodwind parts. The piano part features intricate melodic lines with many accidentals. The woodwind parts provide harmonic support and melodic counterpoints. The score includes repeat signs and first/second endings.

System 1:
Piano: Treble and Bass clefs, 4/4 time, two flats key signature. Melodic line in the right hand with many accidentals. Bass line is mostly rests.
Horn in F: Treble clef, 4/4 time, two flats key signature. Mostly rests with some notes in the second measure.
Bass Clarinet in Bb: Treble clef, 4/4 time, two flats key signature. Melodic line with many accidentals.

System 2:
Pn.: Treble and Bass clefs, 4/4 time, two flats key signature. Melodic line in the right hand with many accidentals. Bass line has some notes.
Hn. in F: Treble clef, 4/4 time, two flats key signature. Melodic line with notes and rests.
B. Cl. in Bb: Treble clef, 4/4 time, two flats key signature. Melodic line with notes and rests.

System 3:
Pn.: Treble and Bass clefs, 4/4 time, two flats key signature. Melodic line in the right hand with many accidentals. Bass line has some notes.
Hn. in F: Treble clef, 4/4 time, two flats key signature. Melodic line with notes and rests.
B. Cl. in Bb: Treble clef, 4/4 time, two flats key signature. Melodic line with notes and rests.

7

Pn.

Hn. in F

B. Cl. in B \flat

9

Pn.

Hn. in F

B. Cl. in B \flat

11

Pn.

Hn. in F

B. Cl. in B \flat

Moon Landing Sonata, Op. 3

Woodwinds

Alon Oscar Deutsch

$\text{♩} = 90$

Flute

Clarinet in Bb

Clarinet in Bb

5

Fl.

Cl. in Bb

Cl. in Bb

9

Fl.

Cl. in Bb

Cl. in Bb

13

Fl.

Cl. in Bb

Cl. in Bb

Fl.

Musical score for three instruments: Flute (Fl.), Clarinet in Bb (Cl. in Bb), and Clarinet in Bb (Cl. in Bb). The score is written in treble clef with a key signature of three flats (Bb, Eb, Ab) and a common time signature (C). The music consists of three measures. The Flute part features a melodic line with eighth and sixteenth notes. The Clarinet in Bb parts provide harmonic support with similar rhythmic patterns. The score concludes with a double bar line.

Cl. in Bb

Cl. in Bb

Blackjack Overture, Op. 4

Duet

Alon Oscar Deutsch

$\text{♩} = 90$

Oboe

Cello

4

Ob.

Cell.

6

Ob.

Cell.

8

Ob.

Cell.

12

Ob.

Cell.

16

Ob.

Cell.

October Waltz, Op. 5

Woodwinds

Alon Oscar Deutsch

$\text{♩} = 112$

Flute

Oboe

Clarinet in Bb

Bassoon

4

Fl.

Ob.

Cl. in Bb

Bsn.

8

Fl.

Ob.

Cl. in Bb

Bsn.

12

Fl.

Ob.

Cl. in Bb

Bsn.

15

Fl.

Ob.

Cl. in Bb

Bsn.

21

Fl.

Ob.

Cl. in Bb

Bsn.

27

Fl.
Ob.
Cl. in Bb
Bsn.

This system contains measures 27 through 30. The Flute part begins with a rest in measure 27, followed by a sixteenth-note scale in measure 28, and a quarter rest in measure 29. The Oboe part has rests in measures 27 and 28, then plays a quarter-note melody in measures 29 and 30. The Clarinet in Bb part plays a quarter-note melody in measures 27 and 28, followed by a sixteenth-note scale in measure 29. The Bassoon part plays a sixteenth-note scale in measure 27, followed by a quarter rest in measure 28, and a sixteenth-note scale in measure 29.

31

Fl.
Ob.
Cl. in Bb
Bsn.

This system contains measures 31 through 38. The Flute part plays a quarter-note melody in measures 31 and 32, followed by a quarter rest in measure 33, and continues with a quarter-note melody in measures 34, 35, and 36. The Oboe part has rests in measures 31, 32, and 33, then plays a quarter-note melody in measures 34, 35, and 36. The Clarinet in Bb part has rests in measures 31, 32, and 33, then plays a quarter-note melody in measures 34, 35, and 36. The Bassoon part has rests in measures 31, 32, and 33, then plays a quarter-note melody in measures 34, 35, and 36.

39

Fl.
Ob.
Cl. in Bb
Bsn.

This system contains measures 39 through 41. The Flute part has rests in measures 39 and 40, then plays a quarter rest in measure 41. The Oboe part has rests in measures 39 and 40, then plays a quarter-note melody in measure 41. The Clarinet in Bb part has rests in measures 39 and 40, then plays a quarter rest in measure 41. The Bassoon part plays a quarter-note melody in measures 39, 40, and 41.

Judean War March, Op. 6

Brass Band

Alon Oscar Deutsch

$\text{♩} = 85$

Brass 1

Euphonium

Tuba

Snare Drum

Bass Drum

Brass 2

8va

Euph.

Tuba

S.D.

B.D.

Brass 1

Euph.

Tuba

S.D.

B.D.

10

Euph.

Tuba

S.D.

B.D.

The image shows a musical score for four instruments: Euphonium (Euph.), Tuba, Snare Drum (S.D.), and Bass Drum (B.D.). The score is written in a key signature of one sharp (F#) and a common time signature (C). The Euph. and Tuba parts are in bass clef. The S.D. and B.D. parts are in a drum set notation. The score consists of two measures. The first measure is marked with a '10' above the Euph. staff. The Euph. and Tuba parts play a melodic line of quarter notes. The S.D. part plays a pattern of eighth notes, and the B.D. part plays a pattern of quarter notes with accents. The second measure continues the melodic line for Euph. and Tuba, with a more complex rhythmic pattern for S.D. and B.D. The score ends with a double bar line.

Carrier Particle Dance, Op. 7

Orchestra

Alon Oscar Deutsch

$\text{♩} = 120$

Ac. Guitar

Ac. Guitar

Xylophone

Bassoon

Bass

Drums

pizz.

13
15
12

Ac. Gt.

Acoustic guitar staff with musical notation and tablature. The staff is divided into three measures. The first measure contains a melodic line in the treble clef and a corresponding tablature line with fret numbers 7, 5, 3, 1, 4, 2, 0, 0. The second measure contains a chord symbol $\text{E}^{\flat}7$ and a circled '3' in the tablature. The third measure contains a melodic line in the treble clef and a corresponding tablature line with fret numbers 9, 8, 3, 2, 7, 6, 0, 5.

Ac. Gt.

Empty acoustic guitar staff with musical notation and tablature lines. The staff is divided into three measures, all of which are empty.

Xylo.

Xylophone staff with musical notation. The staff is divided into three measures. The first measure is empty. The second measure contains a melodic line. The third measure is empty.

Bsn.

Bassoon staff with musical notation. The staff is divided into three measures. The first measure is empty. The second and third measures contain a melodic line.

Bass

Bass staff with musical notation. The staff is divided into three measures. The first measure contains a melodic line. The second and third measures contain a melodic line.

Drums

Drums staff with musical notation. The staff is divided into three measures. The first measure contains a rhythmic pattern. The second and third measures contain a rhythmic pattern.

Ac. Gt.

Ac. Gt.

Xylo.

Bsn.

Bass

Drums

The musical score is arranged in five systems. The first two systems are for Acoustic Guitar (Ac. Gt.), each with a standard staff and a TAB staff. The third system is for Xylophone (Xylo.) with a standard staff. The fourth system is for Bassoon (Bsn.) with a standard staff. The fifth system is for Bass and Drums, with a standard staff for Bass and a drum staff for Drums. The score is in 4/4 time and features a key signature of three flats (B-flat, E-flat, A-flat). The first system (Ac. Gt.) shows a whole rest in the first measure, followed by a double bar line and repeat signs. The second system (Ac. Gt.) also shows a whole rest in the first measure, followed by a double bar line and repeat signs. The third system (Xylo.) shows a whole rest in the first measure, followed by a double bar line and repeat signs. The fourth system (Bsn.) shows a melodic line starting in the first measure, followed by a double bar line and repeat signs. The fifth system (Bass and Drums) shows a rhythmic pattern in the first measure, followed by a double bar line and repeat signs.

Ac. Gt.

Ac. Gt.

Xylo.

Bsn.

Bass

Drums

The image shows a musical score for a four-measure section. The score is arranged in a system with six staves. The top two staves are for Acoustic Guitar (Ac. Gt.), each with a treble clef and a key signature of three flats (B-flat, E-flat, A-flat). The third staff is for Xylophone (Xylo.), with a treble clef and the same key signature. The fourth staff is for Bassoon (Bsn.), with a bass clef and the same key signature. The fifth staff is for Bass, with a bass clef and the same key signature. The sixth staff is for Drums, with a drum set icon. The first four measures of the score are as follows: Measure 1: All instruments are silent. Measure 2: All instruments are silent. Measure 3: All instruments are silent. Measure 4: The Bass line features a complex rhythmic pattern with eighth and sixteenth notes and rests. The Drums line features a simple pattern of quarter notes. The Acoustic Guitar and Xylophone parts are silent throughout the section.

16

Ac. Gt.

Acoustic guitar staff with treble and bass clefs. The treble clef staff contains musical notation for the first measure (measure 16), including a whole rest and a quarter note chord. The bass clef staff contains fret numbers: 2, 2, 15, 16, 14, 15, 12, 11. A double bar line with repeat dots is present.

Ac. Gt.

Acoustic guitar staff with treble and bass clefs. The treble clef staff contains a whole rest. The bass clef staff is empty. A double bar line with repeat dots is present.

Xylo.

Xylophone staff with treble clef. The staff contains a whole rest. A double bar line with repeat dots is present.

Bsn.

Bassoon staff with bass clef. The staff contains a whole rest, a quarter rest, and a quarter note. A double bar line with repeat dots is present.

Bass

Bass staff with bass clef. The staff contains musical notation for the first measure (measure 16), including a quarter note chord and a quarter note. A double bar line with repeat dots is present.

Drums

Drum staff with a double bar line. The staff contains musical notation for the first measure (measure 16), including a quarter note and a quarter note. A double bar line with repeat dots is present.

18

Ac. Gt.

Ac. Gt.

Xylo.

Bsn.

Bass

Drums

20

Ac. Gt.

20 18 18 20 20 22 20

18 22 22 20 18

Ac. Gt.

3 1 2 2 3 1 4 1 4 3 1 1 3 3 4 1

Xylo.

Bsn.

Bass

Drums

Ac. Gt.

Musical notation for Acoustic Guitar (Ac. Gt.). The top staff is a treble clef with a key signature of three flats (B-flat, E-flat, A-flat). It contains a whole rest followed by a fermata. The bottom staff is a guitar TAB with the number '16' written on the sixth line.

Ac. Gt.

Musical notation for Acoustic Guitar (Ac. Gt.). The top staff is a treble clef with a key signature of three flats. It contains a whole rest followed by a fermata, then a grace note followed by an eighth note. The bottom staff is a guitar TAB with the number '6' written on the sixth line.

Xylo.

Musical notation for Xylophone (Xylo.). The staff is a treble clef with a key signature of three flats. It contains a whole rest followed by a fermata, then a quarter note.

Bsn.

Musical notation for Bassoon (Bsn.). The staff is a bass clef with a key signature of three flats. It contains a whole note.

Bass

Musical notation for Bass. The staff is a bass clef with a key signature of three flats. It contains a quarter rest, a quarter note, and a grace note followed by an eighth note.

Drums

Musical notation for Drums. The staff is a drum set notation with a whole rest.

Suite No. 1 in F#m "Fundamental Forces", Op. 8

I. Strong Force

Alon Oscar Deutsch

♩ = 80

Xylophone

Xylophone

Xylophone

2

Xylo.

Xylo.

Xylo.

4

Xylo.

Xylo.

Xylo.

6

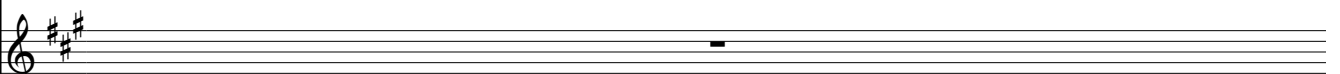
Xylo.


Xylo.

Xylo.

7

Xylo. 

Xylo. 

Xylo. 

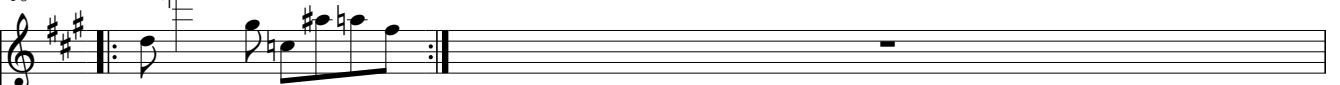
8


Xylo. 


Xylo. 

Xylo. 

10

Xylo. 

Xylo. 

Xylo. 

12

Xylo. 

Xylo. 

Xylo. 

Suite No. 1 in F#m "Fundamental Forces", Op. 8

II. Weak Force

Alon Oscar Deutsch

♩ = 90

Piano

Trombones
Brass 1
mf *f* *port.*

Drums
mf *f*

Pn.

Trb.
Brass 1 & 2
Brass 2
8va *port.*

Drums

Pn.

Trb.
Brass 1
8va

Drums

7

Pn.

Trb.

Drums

9

Pn.

Trb.

Drums

Brass 2

11

Pn.

Trb.

Drums

Brass 1 & 2

Brass 1
8va

13

Pn.

Trb.

Drums

Brass 2

15 *8va*

Pn.

Trb.

Drums

8va

Suite No. 1 in F#m "Fundamental Forces", Op. 8

III. Electromagnetic Force

Alon Oscar Deutsch

Guitars

$\bullet = 121$
F# ϕ

TAB 4/4 : 4 3 6 3 6 3 5 3 1 3 5

Gt.

D

TAB : 15 6 8 10 12 13 15 13 12 9 4

Gt.

F#7

TAB : 14 15 8 10 11 15 4 5 8 5

Gt.

C

TAB : 6 7 3 7 9 16 14

5 **A#m**

Gt.

T
A
B

11	11	10	10	9	9	8	15
10	10	10	10	9	9	8	13
11	11	10	8	10	10	9	12

6 **Cm**

Gt.

T
A
B

10	5	2	6	4	3	4	1
8	7	4	3	1	3	4	
					6	2	1

7 **A#m**

Gt.

T
A
B

15	16	10	11	12	11	15	12	15	16	19
16	16	9	8	7	11	12	14	13	14	15
							14	13	14	15

8 **A**

Gt.

T
A
B

11	12	9	11	12	16	19	18	14	12
11	13	9	12	14	16	15	16		
								13	12

9 **Gø**

Gt.

T
A
B

13					18	14	10	15	12	9
14					15	15	12	15	15	9
	15	12	13	14						

10 Fsus4

Gt.

TAB

11 A#m

Gt.

TAB

12 A#

Gt.

TAB

13 G#ø

Gt.

TAB

14 G#+ F#+

Gt.

TAB

15 **A**

Gt.

T
A
B

2 2 2 2 2 2 2 4 4 4 4

16 **C**

Gt.

T
A
B

3 3 3 3 3 3 3 5 5 5 5

17 **B** **Dsus4**

Gt.

T
A
B

7 5 6 7 8 9 8 6 3 6 5

18 **C#maj7** **C#m**

Gt.

T
A
B

4 2 5 4 5 6 5 4 3 0 3 6

19 **F#m**

Gt.

T
A
B

5 4 7 6 5 5 3 2 1 3 4 5

20 **F#m**

Gt.

TAB: 9 11 6 6 7 4 8 8 7 6 9

B: 9 10 8 7 9 2 10 10 7 6 10

21 **Em**

Gt.

TAB: 7 6 5 3 0 8 8 8 7 6 9

B: 4 4 4 4 4 9 9 9 9 9 9

22 **Am** **A#** **7**

Gt.

TAB: 7 8 10 7 8 10 13 22 19 18

B: 15

23 **Gm** **G#**

Gt.

TAB: 21 16 14 12 20 21 20 22 7 6 5 4

A: 19 13 14 20 19 21 19 20 5 4 3 4

B: 13

24 **G#m** **A**

Gt.

TAB: 0 4 3 2 1 3 3 1 1 4 4 2 2 1 1 4 4 1

B: 3 1 0 3 3 1 1 4 4 0 2 1 1 4 4 1

Suite No. 1 in F#m "Fundamental Forces", Op. 8

IV. Gravitational Force

Alon Oscar Deutsch

The musical score is written in 4/4 time with a key signature of two flats (Bb and Eb). It consists of three systems of staves. The first system includes Flute, Xylophone, and Piano. The Flute part begins with a tempo marking of quarter note = 71. The Piano part features a 3:2 triplet in the second measure. The second system includes Flute (Fl.), Xylophone (Xylo.), and Piano (Pn.). The Flute part starts with a triplet of eighth notes. The Piano part includes a section marked 8vb (8va) and contains several pedal markings (Ped.). The score uses various dynamic markings: *ff*, *f*, *mf*, and *fff*. Performance instructions include *Ped.* and *8vb*.

5

Fl. *ff* *f* *mf* *mp* *p*

Xylo.

Pn. *mf* *mp* *p*

mf *ped.* *ped.*

7

Fl. *mp* *mf* *f*

Xylo. *f*

Pn. *mp* *mf* *f*

mp *mf*

9

Fl.

Xylo.

Pn. *f* *8vb* *ped.*

11

Fl.

Xylo.

Pn.

mf *mp*

3:2 3:2 3:2

Ped. Ped.

13

Fl.

Xylo.

Pn.

p *pp* *PPP* *PPPP* *ff* *fff*

3:2

Ped. *fff*

15

Fl.

Xylo.

Pn.

ffff

Ped.

Devil's Lullaby, Op. 9

Trio

Alon Oscar Deutsch

Violin

English Horn in F

Piano

♩ = 125

Vln.

E.H. in F

Pn.

Vln.

E.H. in F

Pn.

10

Vln.

E.H. in F

Pn.

13

Vln.

E.H. in F

Pn.

16

Vln.

E.H. in F

Pn.

Symphony No. 1 in F#m "Samson", Op. 10

I. Birth

Alon Oscar Deutsch

$\text{♩} = 100$

Violins

Violas

Cellos

Basses

Flute

Oboe

Clarinet in B \flat

Trumpet in B \flat

pizz.

4

Vln.

Vla.

Cell.

Bass

Fl.

Ob.

Cl. in Bb

Tpt. in Bb

Detailed description: This system contains measures 4 and 5 of a musical score. The key signature is three sharps (F#, C#, G#). The score is for a full orchestra. Measures 4 and 5 are marked with a repeat sign. The Violin (Vln.) and Viola (Vla.) parts are silent, indicated by a horizontal line with a bar. The Cello (Cell.) part is also silent. The Bass part plays a rhythmic pattern of quarter notes: G2, F#2, E2, D2, C2, B1, A1, G1. The Flute (Fl.) and Oboe (Ob.) parts are silent. The Clarinet in Bb (Cl. in Bb) part plays a melodic line: G4, F#4, E4, D4, C4, B3, A3, G3. The Trumpet in Bb (Tpt. in Bb) part is silent.

6

Vln.

Vla.

Cell.

Bass

Fl.

Ob.

Cl. in Bb

Tpt. in Bb

Detailed description: This system contains measures 6 and 7 of a musical score. The key signature is three sharps (F#, C#, G#). The score is for a full orchestra. Measures 6 and 7 are marked with a repeat sign. The Violin (Vln.) and Viola (Vla.) parts are silent, indicated by a horizontal line with a bar. The Cello (Cell.) part is also silent. The Bass part plays a rhythmic pattern of quarter notes: G2, F#2, E2, D2, C2, B1, A1, G1. The Flute (Fl.) and Oboe (Ob.) parts are silent. The Clarinet in Bb (Cl. in Bb) part plays a melodic line: G4, F#4, E4, D4, C4, B3, A3, G3. The Trumpet in Bb (Tpt. in Bb) part is silent.

8

Vln.

Vla.

Cell.

Bass

Fl.

Ob.

Cl. in Bb

Tpt. in Bb

10

Vln.

Vla.

Cell.

Bass

Fl.

Ob.

Cl. in Bb

Tpt. in Bb

arco

13

Musical score for measures 13-15. The score is for a full orchestra. The instruments listed are Violin (Vln.), Viola (Vla.), Cello (Cell.), Bass, Flute (Fl.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), and Trumpet in Bb (Tpt. in Bb). The key signature is three sharps (F#, C#, G#). The time signature is 4/4. The score shows a repeat sign at the beginning of measure 13. The Bass part has a 'pizz.' (pizzicato) marking. The Flute part has a melodic line starting in measure 14. The Trumpet in Bb part has a single note in measure 14.

16

Musical score for measures 16-18. The score is for a full orchestra. The instruments listed are Violin (Vln.), Viola (Vla.), Cello (Cell.), Bass, Flute (Fl.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), and Trumpet in Bb (Tpt. in Bb). The key signature is three sharps (F#, C#, G#). The time signature is 4/4. The score shows a melodic line in the Bass part and a more active melodic line in the Flute part. The other instruments are mostly silent.

18

Musical score for measures 18 and 19. The score includes staves for Violin (Vln.), Viola (Vla.), Cello (Cell.), Bass, Flute (Fl.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), and Trumpet in Bb (Tpt. in Bb). The key signature is three sharps (F#, C#, G#). The Bass staff has an "arco" marking above the first measure. The Oboe staff has a melodic line with slurs and accents. The Clarinet in Bb and Trumpet in Bb staves have rests.

20

Musical score for measures 20 and 21. The score includes staves for Violin (Vln.), Viola (Vla.), Cello (Cell.), Bass, Flute (Fl.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), and Trumpet in Bb (Tpt. in Bb). The key signature is three sharps (F#, C#, G#). The Bass staff has a note in the first measure. The Oboe staff has a melodic line with slurs and accents. The Clarinet in Bb staff has a melodic line with slurs and accents. The Trumpet in Bb staff has rests.

22

Musical score for measures 22-26. The score is for a full orchestra. The instruments listed are Violin (Vln.), Viola (Vla.), Cello (Cell.), Bass, Flute (Fl.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), and Trumpet in Bb (Tpt. in Bb). The key signature is three sharps (F#, C#, G#). The time signature is 4/4. The score shows various musical notations including rests, notes, and a woodwind entry in measure 25.

27

Musical score for measures 27-31. The score is for a full orchestra. The instruments listed are Violin (Vln.), Viola (Vla.), Cello (Cell.), Bass, Flute (Fl.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), and Trumpet in Bb (Tpt. in Bb). The key signature is three sharps (F#, C#, G#). The time signature is 4/4. The score shows a rhythmic pattern in the Cello part and a melodic line in the Trumpet part.

29

Musical score for measures 29-30. The score is for a symphony orchestra with the following parts: Violin (Vln.), Viola (Vla.), Cello (Cell.), Bass, Flute (Fl.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), and Trumpet in Bb (Tpt. in Bb). The key signature is three sharps (F#, C#, G#). The time signature is 4/4. In measure 29, the Cello and Bass play a steady eighth-note pattern. In measure 30, the Oboe and Bass play a more complex rhythmic pattern.

31

Musical score for measures 31-33. The score is for a symphony orchestra with the following parts: Violin (Vln.), Viola (Vla.), Cello (Cell.), Bass, Flute (Fl.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), and Trumpet in Bb (Tpt. in Bb). The key signature is three sharps (F#, C#, G#). The time signature is 4/4. In measure 31, the Cello and Bass play a steady eighth-note pattern. In measure 32, the Violin and Viola play a melodic line. In measure 33, the Cello, Bass, and Oboe play a complex rhythmic pattern.

34

Musical score for measures 34-35. The score is for a full orchestra. The instruments listed are Violin (Vln.), Viola (Vla.), Cello (Cell.), Bass, Flute (Fl.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), and Trumpet in Bb (Tpt. in Bb). The key signature is three sharps (F#, C#, G#). The time signature is 4/4. The Violin part has a melodic line with eighth and sixteenth notes. The Trumpet in Bb part has a similar melodic line. The other instruments are silent.

36

Musical score for measures 36-38. The score is for a full orchestra. The instruments listed are Violin (Vln.), Viola (Vla.), Cello (Cell.), Bass, Flute (Fl.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), and Trumpet in Bb (Tpt. in Bb). The key signature is three sharps (F#, C#, G#). The time signature is 4/4. The Violin part has a melodic line with eighth and sixteenth notes. The Trumpet in Bb part has a similar melodic line. The Clarinet in Bb part has a melodic line starting in measure 38. The other instruments are silent.

39

Vln.

Vla.

Cell.

Bass

Fl.

Ob.

Cl. in Bb

Tpt. in Bb

41

Vln.

Vla.

Cell.

Bass

Fl.

Ob.

Cl. in Bb

Tpt. in Bb

43

Musical score for measures 43-44. The score is for a full orchestra. The instruments listed are Violin (Vln.), Viola (Vla.), Cello (Cell.), Bass, Flute (Fl.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), and Trumpet in Bb (Tpt. in Bb). The key signature is three sharps (F#, C#, G#). The time signature is 4/4. The music for measures 43-44 features a rhythmic pattern in the Bass and Tpt. in Bb parts, while the other instruments are silent.

45

Musical score for measures 45-46. The score is for a full orchestra. The instruments listed are Violin (Vln.), Viola (Vla.), Cello (Cell.), Bass, Flute (Fl.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), and Trumpet in Bb (Tpt. in Bb). The key signature is three sharps (F#, C#, G#). The time signature is 4/4. The music for measures 45-46 features a rhythmic pattern in the Bass and Tpt. in Bb parts, while the other instruments are silent.

47

Vln.

Vla.

Cell.

Bass

Fl.

Ob.

Cl. in Bb

Tpt. in Bb

50

Vln.

Vla.

Cell.

Bass

Fl.

Ob.

Cl. in Bb

Tpt. in Bb

Symphony No. 1 in F#m "Samson", Op. 10

II. Lion

Alon Oscar Deutsch

♩ = 90

Trumpet in B♭

Cellos

4

Tpt. in B♭

Cell.

6

Tpt. in B♭

Cell.

8

Tpt. in B♭

Cell.

11

Tpt. in B♭

Cell.

13

Tpt. in B♭

Cell.

Symphony No. 1 in F#m "Samson", Op. 10

III. Delilah

Alon Oscar Deutsch

$\text{♩} = 85$

Flute

Oboe

Clarinet in Bb

Basses *pizz.*

4

Fl.

Ob.

Cl. in Bb

Bass

7

Fl.

Ob.

Cl. in Bb

Bass

10

Fl.

Ob.

Cl. in Bb

Bass

Detailed description: This system contains measures 10 and 11. The Flute (Fl.) part begins in measure 10 with a melodic line of eighth notes. The Oboe (Ob.) part is silent in both measures. The Clarinet in Bb (Cl. in Bb) part enters in measure 11 with a melodic line of eighth notes. The Bass part provides a steady accompaniment of eighth notes throughout both measures. The key signature has three flats (Bb, Eb, Ab).

12

Fl.

Ob.

Cl. in Bb

Bass

Detailed description: This system contains measures 12, 13, and 14. In measure 12, the Flute (Fl.) part has a complex, rapid melodic passage. The Oboe (Ob.) part is silent. The Clarinet in Bb (Cl. in Bb) part has a few notes in measure 12. In measure 13, the Flute part continues with a similar complex passage. The Clarinet part is silent. In measure 14, the Flute part has a melodic line, the Oboe part has a single note, and the Clarinet part has a single note. The Bass part continues with eighth notes. The system ends with a double bar line. The key signature has three flats (Bb, Eb, Ab).

Symphony No. 1 in F#m "Samson", Op. 10

IV. Capture

Alon Oscar Deutsch

Flute

Violins

4

Fl.

Vln.

7

Fl.

Vln.

9

Fl.

Vln.

11

Fl.

Vln.

♩ = 90

Detailed description: This is a page of a musical score for the fourth movement, 'Capture', of Symphony No. 1 in F#m by Alon Oscar Deutsch. The score is in 4/4 time and features two staves: Flute (Fl.) and Violins (Vln.). The tempo is marked as quarter note = 90. The music is written in F# minor. The score is divided into measures, with measure numbers 4, 7, 9, and 11 indicated. The Flute part has melodic lines with some rests, while the Violins play a complex, rhythmic accompaniment with many sixteenth notes and some slurs. The key signature has one sharp (F#) and one flat (C), and the time signature is 4/4.

Symphony No. 1 in F#m "Samson", Op. 10

V. Death

Alon Oscar Deutsch

♩ = 120

Oboe

Violas

pizz.

4

Ob.

Vla.

7

Ob.

Vla.

arco

11

Ob.

Vla.

13

Ob.

Vla.

15

Ob.

Vla.

Cello Concerto No. 1 in Dm, Op. 11

I. Allegro

Alon Oscar Deutsch

Allegro (♩ = 120)

Cello

Violas

Violins

Bassoon

Cell.

Vla.

Vln.

Bsn.

Cell.

Vla.

Vln.

Bsn.

11

Cell.

Vla.

Vln.

Bsn.

14

Cell.

Vla.

Vln.

Bsn.

17

Cell.

Vla.

Vln.

Bsn.

20

Cell.

Vla.

Vln.

Bsn.

23

Cell.

Vla.

Vln.

Bsn.

27

Cell.

Vla.

Vln.

Bsn.

31

Cell.

Vla.

Vln.

Bsn.

34

Cell.

Vla.

Vln.

Bsn.

38

Cell.

Vla.

Vln.

Bsn.

41

Cell.

Vla.

Vln.

Bsn.

45

Cell.

Vla.

Vln.

Bsn.

50

Cell.

Vla.

Vln.

Bsn.

54

Cell.

Vla.

Vln.

Bsn.

59

Cell.

Vla.

Vln.

Bsn.

64

Cell.

Vla.

Vln.

Bsn.

68

Cell.

Vla.

Vln.

Bsn.

73

Cell.

Vla.

Vln.

Bsn.

77

Cell.

Vla.

Vln.

Bsn.

79

Cell.

Vla.

Vln.

Bsn.

82

Cell.

Vla.

Vln.

Bsn.

87

Cell.

Vla.

Vln.

Bsn.

Cello Concerto No. 1 in Dm, Op. 11

II. Presto

Alon Oscar Deutsch

Presto (♩ = 170)

The score is divided into three systems. The first system (measures 1-6) features the Cello, Contrabassoon, and Piano. The Cello and Contrabassoon parts are mostly rests, with some notes in the final measure. The Piano part has a melodic line in the right hand and rests in the left hand. The second system (measures 7-11) features the Celli, Contrabassoons, and Pianos. The Cello part has a melodic line starting in measure 7. The Contrabassoon part has a melodic line starting in measure 11. The Piano part has a complex texture with chords and a melodic line in the right hand, and a bass line in the left hand. The third system (measures 12-16) features the Celli, Contrabassoons, and Pianos. The Cello part has a melodic line starting in measure 12. The Contrabassoon part has a melodic line starting in measure 14. The Piano part has a complex texture with chords and a melodic line in the right hand, and a bass line in the left hand.

Cello

Contrabassoon

Piano

7

Cell.

Cbn.

Pn.

12

Cell.

Cbn.

Pn.

Cell.

Musical staff for Cello (Cell.) showing three measures of whole rests.

Cbn.

Musical staff for Clarinet Bassoon (Cbn.) showing a melodic line in the first two measures and a whole note in the third.

Pn.

Musical staff for Piano (Pn.) showing a complex texture with many notes in the right hand and rests in the left hand.

Cello Concerto No. 1 in Dm, Op. 11

III. Adagio

Alon Oscar Deutsch

Adagio (♩ = 75)

Cello

Violas

Violins

Flute

Cell.

Vla.

Vln.

Fl.

Cell.

Vla.

Vln.

Fl.

8

Cell.

Vla.

Vln.

Fl.

11

Cell.

Vla.

Vln.

Fl.

16

Cell.

Vla.

Vln.

Fl.

Suite No. 2 in Am "Colors", Op. 12

I. Blue

Alon Oscar Deutsch

♩ = 50

System 1:
Oboe: Melodic line starting with a quarter rest, followed by eighth and quarter notes.
Piano: Treble and bass clefs with quarter and eighth notes.
Bass: Bass clef with eighth and quarter notes.

System 2:
Ob.: Treble clef with quarter notes.
Pn.: Treble clef with a complex eighth-note accompaniment.
Bass: Bass clef with eighth and quarter notes.

System 3:
Ob.: Treble clef with eighth and quarter notes.
Pn.: Treble clef with eighth-note accompaniment.
Bass: Bass clef with quarter notes.

Ob.

Pn.

Bass

The musical score consists of three staves. The top staff is for the Oboe (Ob.), the middle two staves are for the Piano (Pn.), and the bottom staff is for the Bass. The Oboe staff has a treble clef and a whole rest in the first measure, followed by a whole note 'e' in the second measure. The Piano staff has a grand staff with treble and bass clefs, with whole rests in both staves for both measures. The Bass staff has a bass clef and contains a sequence of notes in the first measure: a half note G2, a half note A2, a quarter note B2, a quarter note C3, a quarter note D3, a quarter note E3, a quarter note F3, a quarter note G3, and a quarter note A3. The second measure of the Bass staff contains a whole rest.

Suite No. 2 in Am "Colors", Op. 12

II. Yellow

Alon Oscar Deutsch

$\text{♩} = 35$

Oboe

Piano

Bass

5

Ob.

Pn.

Bass

9

Ob.

Pn.

Bass

Suite No. 2 in Am "Colors", Op. 12

III. Red

Alon Oscar Deutsch

Oboe

Piano

Bass

$\text{♩} = 110$

Ob.

Pn.

Bass

4

Ob.

Pn.

Bass

7

Ob.

Pn.

Bass

Detailed description: This is a musical score for three instruments: Oboe (Ob.), Piano (Pn.), and Bass. The score is divided into three systems. The first system (measures 1-2) shows the Piano part with a melodic line in the right hand and a bass line in the left hand. The second system (measures 3-4) shows the Oboe and Bass parts with a melodic line in the right hand and a bass line in the left hand. The third system (measures 5-6) shows the Piano part with a melodic line in the right hand and a bass line in the left hand. The score is written in a key signature of one flat (B-flat) and a common time signature (C). The Oboe and Bass parts have a melodic line in the right hand and a bass line in the left hand. The Piano part has a melodic line in the right hand and a bass line in the left hand. The score is written in a key signature of one flat (B-flat) and a common time signature (C). The Oboe and Bass parts have a melodic line in the right hand and a bass line in the left hand. The Piano part has a melodic line in the right hand and a bass line in the left hand.

Manginat Hagalil, Op. 13

Duet

Alon Oscar Deutsch

System 1:
Piccolo: $\text{♩} = 75$
Contrabassoon

System 2 (Measures 4-7):
Picc.
Cbn.

System 3 (Measures 8-11):
Picc.
Cbn.

Gt.

The image shows a musical score for guitar. It consists of three staves: a treble clef staff, a bass clef staff, and a tablature staff. The treble staff contains a melodic line with various note values and accidentals. The bass staff contains a bass line with notes and rests. The tablature staff shows fret numbers (0, 2, 4, 1, 4, 1, 3, 3, 1, 1, 3, 1, 3, 5, 3, 3, 5, 3, 2, 4, 3, 1, 4, 5) and two circled markers, 1 and 2, indicating specific fret positions or techniques. The score is divided into three measures by vertical bar lines.

Birthday Waltz, Op. 15

Piano

Alon Oscar Deutsch

♩ = 90

Piano

Musical notation for measures 1-5. The piece is in 3/4 time with a key signature of one flat (B-flat). The tempo is marked as quarter note = 90. The right hand has rests, while the left hand plays a steady eighth-note accompaniment.

6

Pn.

Musical notation for measures 6-10. The right hand begins with a melodic line, and the left hand continues with the eighth-note accompaniment.

11

Pn.

Musical notation for measures 11-15. The right hand features a more active melodic line with eighth-note patterns, while the left hand maintains the accompaniment.

16

Pn.

Musical notation for measures 16-20. The right hand has a melodic line with some chromaticism, and the left hand continues with the accompaniment.

21

Pn.

Musical notation for measures 21-25. The right hand has a melodic line with chromaticism, and the left hand continues with the accompaniment.

26

Pn.



31

Pn.



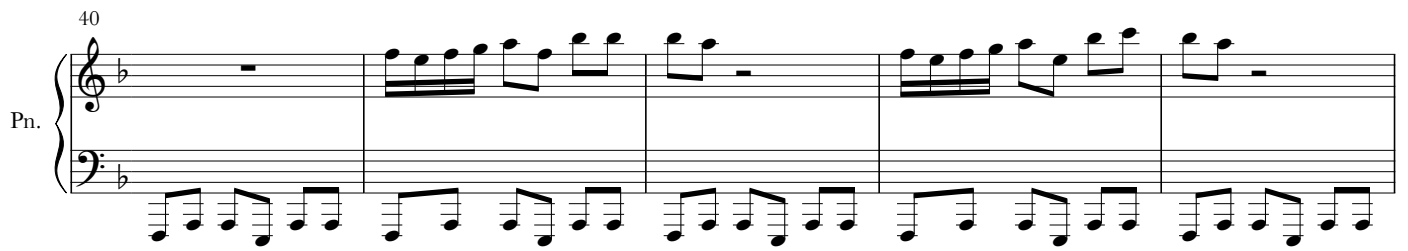
35

Pn.



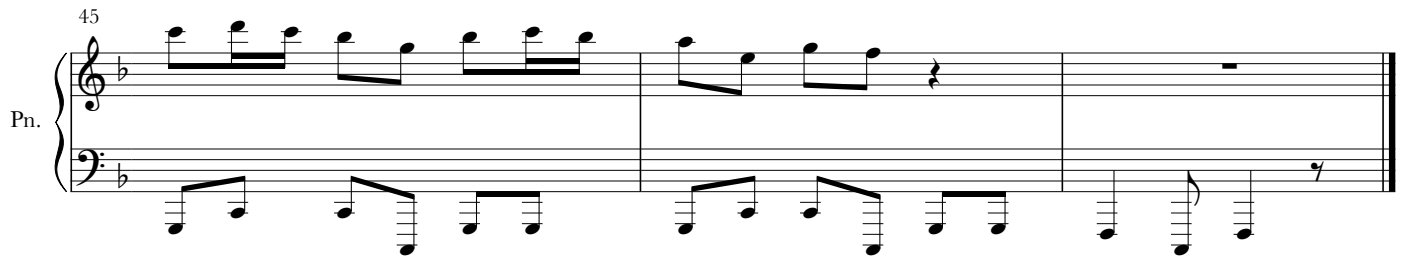
40

Pn.



45

Pn.



Martian Sunrise, Op. 16

Duet

Alon Oscar Deutsch

$\text{♩} = 90$

English Horn in F

Cello

4

E.H. in F

Cell.

7

E.H. in F

Cell.

10

E.H. in F

Cell.

Race Track Boogie, Op. 17

Brass Band

Alon Oscar Deutsch

$\text{♩} = 110$
Brass 1

Trumpet in Bb

Brass 2

Trombone

Tuba

4

Brass 1

Brass 2

Tpt. in Bb

Trb.

Tuba

8

Brass 1

Brass 2

Tpt. in Bb

Trb.

Tuba

11

Tpt. in Bb

Trb.

Tuba

$\text{♩} = 110$

Still Waters, Op. 18

Duet

Alon Oscar Deutsch

The musical score is presented in four systems, each containing a Violin (Vln.) and Piano (Pn.) part. The key signature is B-flat major (two flats) and the time signature is 6/4. The tempo is marked as quarter note = 115. The score begins with a tempo marking of quarter note = 115. The first system shows the Violin playing a series of chords and the Piano playing a rhythmic accompaniment. The second system continues the Violin part with a triplet of chords and the Piano part with a more complex accompaniment. The third system shows the Violin part with a triplet of chords and the Piano part with a more complex accompaniment. The fourth system shows the Violin part with a series of chords and the Piano part with a more complex accompaniment.

22

Vln.

Pn.

22

23

24

25

26

Vln.

Pn.

26

27

28

29

Vln.

Pn.

29

30

Hockey Theme, Op. 19

Orchestra

Alon Oscar Deutsch

♩ = 155

English Horn in F

Violins

Violas

Cellos

Basses

3

E.H. in F

Vln.

Vla.

Cell.

Bass

6

E.H. in F

Vln.

Vla.

Cell.

Bass

11

E.H. in F

Vln.

Vla.

Cell.

Bass

17

E.H. in F

Vln.

Vla.

Cell.

Bass

19

E.H. in F

Vln.

Vla.

Cell.

Bass

22

E.H. in F

Vln.

Vla.

Cell.

Bass

Infinitesimals, Op. 20

Duet

Alon Oscar Deutsch

$\text{♩} = 113$

Piano

Guitar

Pn.

Gt.

8vb

8vb

TAB

4/4 3/5

1 3 2 4 4 3 4 4 5 6 4 6 4 8

9 8 5 10 7 5 9 7 8

3

TAB

5 6 9 6 8 7 10 6 9 6 7 8 7 8 9 5 6 6 9 10 11 9

5

Pn.

Gt.

10 6 4 4 8 4 6 8 6 4 8 6

7

Pn.

8va

Gt.

13 15 16 15 16 15 13 13 14 13 13 8 13 10 11 10

9

Pn.

Gt.

16 11 10 13 12 14 13 8 9 8 10 10 11 10 11 10 13 9 12 10 11 9 12 14

11

Pn.

Gt.

TAB

3 7 6 4 4 5 4 6 7 7 6 8 8 4 7 4 8

Detailed description: This system contains measures 11 and 12. The piano part (Pn.) features a treble clef with a key signature of three sharps (F#, C#, G#) and a bass clef with a key signature of two sharps (F#, C#). The guitar part (Gt.) includes a treble clef with the same key signature and a six-string TAB system. The TAB system is labeled 'TAB' and 'B' (Bass). The fret numbers for measures 11 and 12 are: 3 7 6 4 4 5 4 6 7 7 6 8 8 4 7 4 8.

13

Pn.

Gt.

TAB

7 4 5 5 4 3 6 4 4 4 7 7 6 6 7 4 4

Detailed description: This system contains measures 13 and 14. The piano part (Pn.) features a treble clef with a key signature of three sharps (F#, C#, G#) and a bass clef with a key signature of two sharps (F#, C#). The guitar part (Gt.) includes a treble clef with the same key signature and a six-string TAB system. The TAB system is labeled 'TAB' and 'B' (Bass). The fret numbers for measures 13 and 14 are: 7 4 5 5 4 3 6 4 4 4 7 7 6 6 7 4 4.

15

Pn.

Gt.

TAB

3 3 3 4 4 5 5 4 4 5 5 2 4 6 6 7 7 6 6 7 3 7 6 6 8 8 8

Detailed description: This system contains measures 15 and 16. The piano part (Pn.) features a treble clef with a key signature of three sharps (F#, C#, G#) and a bass clef with a key signature of two sharps (F#, C#). The guitar part (Gt.) includes a treble clef with the same key signature and a six-string TAB system. The TAB system is labeled 'TAB' and 'B' (Bass). The fret numbers for measures 15 and 16 are: 3 3 3 4 4 5 5 4 4 5 5 2 4 6 6 7 7 6 6 7 3 7 6 6 8 8 8.

Boca Raton Klezmer, Op. 21

Quartet

Alon Oscar Deutsch

♩ = 160

Clarinet in B \flat

Trumpet in B \flat

Piano

Bass

pizz.

arco

5

Cl. in B \flat

Tpt. in B \flat

Pn.

Bass

3

9

Cl. in Bb

Tpt. in Bb

Pn.

Bass

12

Cl. in Bb

Tpt. in Bb

Pn.

Bass

16

Cl. in Bb

Tpt. in Bb

Pn.

Bass

19

Cl. in B \flat

Musical staff for Clarinet in B \flat . The staff is in treble clef with a key signature of one sharp (F#). It contains a melodic line starting with a quarter note G4, followed by eighth notes A4, B4, C5, D5, E5, and a quarter note D5. The rest of the staff is empty.

Tpt. in B \flat

Musical staff for Trumpet in B \flat . The staff is in treble clef with a key signature of one sharp (F#). It contains a melodic line starting with a quarter rest, followed by eighth notes G4, A4, B4, C5, D5, E5, and a quarter note D5. The rest of the staff is empty.

Pn.

Musical staff for Piano. The staff is in bass clef with a key signature of one flat (B \flat). It contains a bass line with quarter notes G2, F2, E2, D2, C2, B1, and a quarter note A1. The right hand has a whole note chord of G4, B4, D5 in the final measure.

Bass

Musical staff for Bass. The staff is in bass clef with a key signature of one flat (B \flat). It contains a bass line with quarter notes G2, F2, E2, D2, C2, B1, and a quarter note A1.

Guitar Suite No. 1 in Bbm, Op. 22

I. Ocean

Alon Oscar Deutsch

Guitar

$\text{♩} = 80$

T
A
B

3 0 1 2 4 2 1

3 0 0 3 4

3 0 1 3 4 0 3 2

1 3 0 0 3 4

1 3 2 2 1 3 4 0 3 2

1 3 0 1 3 2 0 4

1 2 2

Gt.

3 0 3 0 0 3 1 3

3 2 2 1 3 4 0 3 2

0 2 1 0 4 1 3

3 0 1 3 4 0 3 2

0 3 3 1 3

1 3 2 2

Gt.

5

T
A
B

①

Guitar Suite No. 1 in Bbm, Op. 22

II. Continent

Alon Oscar Deutsch

Guitar

$\text{♩} = 70$

TAB: $\frac{4}{4}$: 3 1 3 2 1 3 2 0 2 3 2 0 | $\frac{3}{2}$ 2 3 2 5 3 2 6 6 : 5 3 1 3 2 2 5 3 3

Gt.

4

TAB: $\frac{2}{4}$: 3 3 3 3 3 3 0 2 3 2 3 | 1 2 4 0 2 4 4 4 : 4 1 1 3 4 3 4 4 4 :

Gt.

6

TAB: 6 5 6 3 2 3 4 3 4 3 4 3 2 3 4 : 3 3 3 0 3 3 3 3 3 3 3 3 : 2 0 2 3 3

Gt.

8

TAB: 2 3 2 1 2 2 2 2 2 2 2 4 4 : 2 4 4 : (6 6 5 5)

Guitar Suite No. 1 in Bbm, Op. 22

III. Sky

Alon Oscar Deutsch

Guitar

$\text{♩} = 105$

0 0 1 3 4 1 3

2 3 1 3 1 2 3

4 1 3 1

2 3 0 4 3 1 4 1 2 4 1

Gt.

4

3 1 3 1 3 0 2 4 3 4 1 3

3 4 2 3 2 1 3 4 1 3

1 3 3 1 4 0 3 1 3

Gt.

7

0 3 1 4 5 0 4 3 3 1

2 1 2 0 1 6 5 2 5 5

4 1 2 1 0 1 0 2 1 4

Gt.

10

2 3 1 3 1 2 3

2 3 0 4 3 1 4 1 2 4 1

3 1 3 1 3 0 4 3 4 1 3

Gt.

13

3 2 2 1

3 4 1 3

0 3 5

1 4 6

Fin

Symphony No. 2 in Am, Op. 23

I. Allegro

Alon Oscar Deutsch

Allegro (♩ = 120)

The musical score is presented in two systems. The first system includes staves for Violins, Violas, Cellos, Basses, Piccolo, and Contrabassoon. The Violins part begins with a series of sixteenth-note chords. The Basses part has a melodic line starting with a quarter note. The Piccolo and Contrabassoon parts have rhythmic patterns of eighth and sixteenth notes. A repeat sign is present after the first two measures of each part. The second system includes staves for Violin I (Vln.), Viola (Vla.), Cello (Cell.), Bass, Piccolo (Picc.), and Contrabassoon (Cbn.). The Violin I part starts at measure 5 with a series of sixteenth-note chords. The other parts continue their respective patterns.

10

Vln.

Vla.

Cell.

Bass

Picc.

Cbn.

15

Vln.

Vla.

Cell.


Bass


Picc.

Cbn.


20

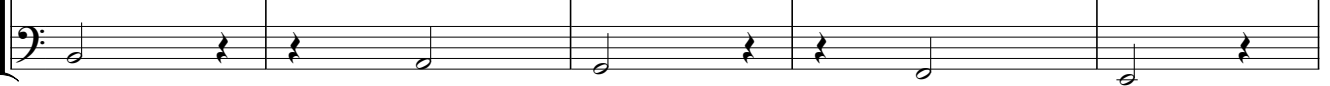
Vln. 

Vla. 


Cell. 


Bass 

Picc. 

Cbn. 

25


Vln. 

Vla. 

Cell. 

Bass 

Picc. 

Cbn. 

30

Vln.
Vla.
Cell.
Bass
Picc.
Cbn.

Detailed description: This system contains measures 30 through 35. The Violin (Vln.) and Viola (Vla.) parts play a melodic line starting with a half note G4, followed by eighth notes. The Cello (Cell.) and Bass parts play a similar melodic line in the lower register. The Piccolo (Picc.) and Contrabass (Cbn.) parts play a rhythmic accompaniment of eighth notes. A double bar line with repeat dots appears at the end of measure 35. The system concludes with three measures of sustained notes for the Violin and Viola.

36

Vln.
Vla.
Cell.
Bass
Picc.
Cbn.

Detailed description: This system contains measures 36 through 41. The Violin (Vln.) part is silent, indicated by a whole rest. The Viola (Vla.), Cello (Cell.), and Contrabass (Cbn.) parts are also silent with whole rests. The Bass part plays a steady eighth-note accompaniment. The Piccolo (Picc.) part plays a rhythmic pattern of eighth notes. The system concludes with six measures of sustained notes for the Violin and Viola.

42

Musical score for measures 42-45. The score is arranged in two systems. The first system includes Vln. (Violin), Vla. (Viola), Cell. (Cello), and Bass. The second system includes Picc. (Piccolo) and Cbn. (Contra Bass). The Vln. part has a treble clef and a key signature of one flat. The Vla. part has an alto clef. The Cell. and Bass parts have bass clefs. The Picc. part has a treble clef. The Cbn. part has a bass clef. The score features a repeat sign at the beginning of measure 42. The Vln. part has a melodic line with a repeat sign. The Vla. part has a melodic line with a repeat sign. The Cell. part has a melodic line with a repeat sign. The Bass part has a melodic line with a repeat sign. The Picc. part has a melodic line with a repeat sign. The Cbn. part has a melodic line with a repeat sign.

46

Musical score for measures 46-49. The score is arranged in two systems. The first system includes Vln. (Violin), Vla. (Viola), Cell. (Cello), and Bass. The second system includes Picc. (Piccolo) and Cbn. (Contra Bass). The Vln. part has a treble clef and a key signature of one flat. The Vla. part has an alto clef. The Cell. and Bass parts have bass clefs. The Picc. part has a treble clef. The Cbn. part has a bass clef. The score features a repeat sign at the beginning of measure 46. The Vln. part has a melodic line with a repeat sign. The Vla. part has a melodic line with a repeat sign. The Cell. part has a melodic line with a repeat sign. The Bass part has a melodic line with a repeat sign. The Picc. part has a melodic line with a repeat sign. The Cbn. part has a melodic line with a repeat sign. The Vln. part has a melodic line with a repeat sign. The Vla. part has a melodic line with a repeat sign. The Cell. part has a melodic line with a repeat sign. The Bass part has a melodic line with a repeat sign. The Picc. part has a melodic line with a repeat sign. The Cbn. part has a melodic line with a repeat sign.

50

Vln. 

Vla. 


Cell. 


Bass 


Picc. 

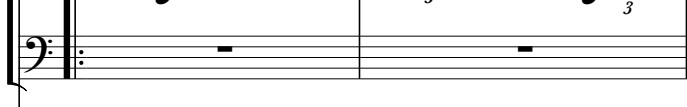
Cbn. 


55


Vln. 

Vla. 

Cell. 

Bass 

Picc. 

Cbn. 

59

Vln.

Vla.

Cell.

Bass

Picc.

Cbn.

63

Vln.

Vla.

Cell.

Bass

Picc.

Cbn.

Symphony No. 2 in Am, Op. 23

II. Allegro

Alon Oscar Deutsch

Allegro (♩ = 120)

The musical score is presented in two systems. The first system includes staves for Violins, Violas, Cellos, Basses, Piccolo, and Contrabassoon. The second system includes staves for Violins (Vln.), Violas (Vla.), Cellos (Cell.), Basses, Piccolo (Picc.), and Contrabassoon (Cbn.). The score is in 3/4 time and features a variety of rhythmic patterns and melodic lines across the instruments.

8

8

Vln.

Vla.

Cell.

Bass

Picc.

Cbn.

Detailed description: This system contains measures 8 through 11. The Violin I part (Vln.) is silent in measures 8 and 9, then plays a sixteenth-note scale in measure 10, and a quarter note in measure 11. The Violin II part (Vla.) is silent in measures 8, 9, and 10, then plays a sixteenth-note scale in measure 11. The Cello part (Cell.) plays a sixteenth-note scale in measure 8, followed by rests in measures 9, 10, and 11. The Bass part (Bass) is silent in all four measures. The Piccolo (Picc.) and Contrabass (Cbn.) parts are silent in all four measures.

12

12

Vln.

Vla.

Cell.

Bass

Picc.

Cbn.

Detailed description: This system contains measures 12 through 15. The Violin I part (Vln.) is silent in measure 12, then plays a sixteenth-note scale in measure 13, a quarter note in measure 14, and a sixteenth-note scale in measure 15. The Violin II part (Vla.) plays a sixteenth-note scale in measure 12, a quarter note in measure 13, and is silent in measures 14 and 15. The Cello part (Cell.) has rests in measures 12, 13, 14, and 15. The Bass part (Bass) is silent in all four measures. The Piccolo (Picc.) is silent in measures 12 and 13, then plays a quarter note in measure 14 and is silent in measure 15. The Contrabass (Cbn.) is silent in measures 12 and 13, then plays a quarter note in measure 14 and a quarter note in measure 15.

18

Vln.

Vla.

Cell.

Bass

Picc.

Cbn.

23

Vln.

Vla.

Cell.

Bass

Picc.

Cbn.

Symphony No. 2 in Am, Op. 23

III. Largo

Alon Oscar Deutsch

Largo (♩ = 44)

The musical score is written for Piano, Trumpet in Bb, and Violins. It is in 4/4 time and consists of three systems. The tempo is Largo (♩ = 44). The key signature is one sharp (F#). The score begins with a piano introduction in the first system, followed by the trumpet and violin entries. The second system continues the piano and violin parts, with the trumpet entering. The third system shows the piano and violin parts continuing, with the trumpet part remaining silent.

5

8

10

Pn.

Piano part for measures 10-14. The right hand plays a melodic line with eighth and sixteenth notes, while the left hand has rests.

Tpt. in Bb

Trumpet in Bb part for measures 10-14. The instrument plays a melodic line with eighth and sixteenth notes, with rests in measures 11 and 12.

Vln.

Violin part for measures 10-14. The violin plays a melodic line with eighth and sixteenth notes, with rests in measures 10 and 13.

15

Pn.

Piano part for measures 15-18. The right hand has a few notes in measures 15 and 16, while the left hand has rests.

Tpt. in Bb

Trumpet in Bb part for measures 15-18. The instrument plays a melodic line with quarter and eighth notes, with rests in measures 16 and 18.

Vln.

Violin part for measures 15-18. The violin plays a melodic line with eighth and sixteenth notes, with rests in measures 15 and 16.

19

Pn.

Piano part for measures 19-22. The right hand has a few notes in measures 19 and 20, while the left hand has rests.

Tpt. in Bb

Trumpet in Bb part for measures 19-22. The instrument plays a melodic line with eighth and sixteenth notes, with rests in measures 20 and 22.

Vln.

Violin part for measures 19-22. The violin plays a melodic line with eighth and sixteenth notes, with rests in measures 20 and 21.

23

Pn.

Piano part for measures 23-25. The right hand has a few notes in measures 23 and 24, while the left hand has rests.

Tpt. in Bb

Trumpet in Bb part for measures 23-25. The instrument plays a melodic line with eighth and sixteenth notes, with rests in measures 24 and 25.

Vln.

Violin part for measures 23-25. The violin plays a melodic line with eighth and sixteenth notes, with rests in measures 23 and 24.

26

Pn.

Piano part for measures 26-28. Measure 26: Treble clef, whole rest. Bass clef, whole rest. Measure 27: Treble clef, eighth notes G4, A4, B4, eighth rest, eighth notes C5, B4, A4, eighth rest. Bass clef, whole rest. Measure 28: Treble clef, eighth notes G4, A4, B4, eighth notes C5, B4, A4, eighth notes G4, F4, E4. Bass clef, whole rest.

Tpt. in B♭

Trumpet in B-flat part for measures 26-28. Measure 26: Treble clef, eighth notes G4, A4, B4, eighth notes C5, B4, A4, eighth notes G4, F4, E4. Measure 27: Treble clef, quarter rest, quarter note G4, eighth notes A4, B4, eighth notes C5, B4, A4. Measure 28: Treble clef, whole rest.

Vln.

Violin part for measures 26-28. Measure 26: Treble clef, whole rest. Measure 27: Treble clef, eighth rest, eighth note G4, quarter rest. Measure 28: Treble clef, whole rest.

29

Pn.

Piano part for measures 29-31. Measure 29: Treble clef, whole rest. Bass clef, whole rest. Measure 30: Treble clef, whole rest. Bass clef, whole rest. Measure 31: Treble clef, whole note G4. Bass clef, whole note G3.

Tpt. in B♭

Trumpet in B-flat part for measures 29-31. Measure 29: Treble clef, whole rest. Measure 30: Treble clef, whole note G4. Measure 31: Treble clef, whole rest.

Vln.

Violin part for measures 29-31. Measure 29: Treble clef, eighth notes G4, A4, B4, eighth notes C5, B4, A4. Measure 30: Treble clef, eighth notes G4, A4, B4, eighth notes C5, B4, A4. Measure 31: Treble clef, whole rest.

Piano Concerto No. 2 in Am, Op. 24

I. Allegro

Alon Oscar Deutsch

Allegro (♩ = 120)

The image shows the first page of a musical score for the first movement of a piano concerto. The score is for a full orchestra and piano. The tempo is marked 'Allegro' with a quarter note equal to 120 beats per minute. The key signature is one flat (A minor) and the time signature is 4/4. The piano part is the only one with notes, featuring a melodic line in the right hand and a bass line in the left hand. The other instruments (Flute, Trumpet in Bb, Horn in F, Violins, Violas, Cellos, and Basses) are currently silent, indicated by rests on their staves.

Instrument parts shown:

- Piano
- Flute
- Trumpet in Bb
- Horn in F
- Violins
- Violas
- Cellos
- Basses

6

Pn.

Fl.

Tpt. in Bb

Hn. in F

Vln.

Vla.

Cell.

Bass

Detailed description: This system contains measures 6 through 10. The piano part (Pn.) is active, with the right hand playing a melodic line and the left hand providing harmonic support with chords and octaves. The flute (Fl.) enters in measure 10 with a melodic phrase. The woodwinds (Tpt. in Bb and Hn. in F) and strings (Vln., Vla., Cell., Bass) are mostly silent, indicated by rests.

11

Pn.

Fl.

Tpt. in Bb

Hn. in F

Vln.

Vla.

Cell.

Bass

Detailed description: This system contains measures 11 through 13. The piano part (Pn.) is mostly silent, with some chords in the left hand. The flute (Fl.) has a busy melodic line. The trumpet (Tpt. in Bb) and horn (Hn. in F) parts have melodic lines. The violin (Vln.) part has a melodic line starting in measure 12. The viola (Vla.), cello (Cell.), and bass (Bass) parts are mostly silent.

Musical score for measures 14 and 15, featuring the following instruments:

- Pn.** (Piano): Treble and Bass clefs. Measure 14 has a melodic line in the treble and a bass line. Measure 15 has a melodic line in the treble and a bass line.
- Fl.** (Flute): Treble clef. Measure 14 is silent. Measure 15 has a melodic line.
- Tpt. in Bb** (Trumpet in B-flat): Treble clef, key signature of one sharp (F#). Measure 14 has a melodic line. Measure 15 is silent.
- Hn. in F** (Horn in F): Treble clef, key signature of one sharp (F#). Measure 14 has a melodic line. Measure 15 is silent.
- Vln.** (Violin): Treble clef. Measure 14 is silent. Measure 15 has a melodic line.
- Vla.** (Viola): Bass clef. Measure 14 is silent. Measure 15 has a melodic line.
- Cell.** (Cello): Bass clef. Measure 14 is silent. Measure 15 has a melodic line.
- Bass**: Bass clef. Measure 14 is silent. Measure 15 has a melodic line.

16

Pn.

Fl.

Tpt. in B \flat

Hn. in F

Vln.

Vla.

Cell.

Bass

18

Pn.

Fl.

Tpt. in Bb

Hn. in F

Vln.

Vla.

Cell.

Bass

21

Pn.

Fl.

Tpt. in Bb

Hn. in F

Vln.

Vla.

Cell.

Bass

26

Musical score for measures 26-29. The score includes staves for Piano (Pn.), Flute (Fl.), Trumpet in Bb (Tpt. in Bb), Horn in F (Hn. in F), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The Piano part features a complex melodic line with sixteenth and thirty-second notes, while the other instruments are mostly silent.

30

Musical score for measures 30-33. The score includes staves for Piano (Pn.), Flute (Fl.), Trumpet in Bb (Tpt. in Bb), Horn in F (Hn. in F), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The Piano part continues with a melodic line. The Violin, Viola, Cello, and Bass parts enter in measure 30 with a rhythmic accompaniment of eighth notes.

34

Musical score for measures 34-39. The score includes parts for Piano (Pn.), Flute (Fl.), Trumpet in Bb (Tpt. in Bb), Horn in F (Hn. in F), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The Piano part features a melodic line in the right hand and a bass line in the left hand, with a key signature change to B-flat major at measure 37. The Flute and Trumpet in Bb parts play a rhythmic eighth-note pattern. The Horn in F part is silent. The Violin, Viola, Cello, and Bass parts are silent.

40

Musical score for measures 40-43. The score includes parts for Piano (Pn.), Flute (Fl.), Trumpet in Bb (Tpt. in Bb), Horn in F (Hn. in F), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The Piano part features a melodic line in the right hand and a bass line in the left hand. The Flute part is silent. The Trumpet in Bb and Horn in F parts are silent. The Violin, Viola, Cello, and Bass parts are silent.

Pn.

Piano part notation for measures 44-46. Measure 44 features a right-hand melodic line with eighth-note patterns and a left-hand accompaniment of chords and eighth notes. Measure 45 is a whole rest. Measure 46 begins with a left-hand chord and continues with a right-hand melodic line.

Fl.

Flute part notation for measures 44-46. Measure 44 is a whole rest. Measure 45 is a whole rest. Measure 46 contains a melodic line with a descending eighth-note pattern.

Tpt. in Bb

Trumpet in Bb part notation for measures 44-46. All three measures (44, 45, and 46) are whole rests.

Hn. in F

Horn in F part notation for measures 44-46. All three measures (44, 45, and 46) are whole rests.

Vln.

Violin part notation for measures 44-46. Measures 44 and 45 are whole rests. Measure 46 contains a whole rest with a handwritten 'be' above it.

Vla.

Viola part notation for measures 44-46. All three measures (44, 45, and 46) are whole rests.

Cell.

Cello part notation for measures 44-46. All three measures (44, 45, and 46) are whole rests.

Bass

Bass part notation for measures 44-46. All three measures (44, 45, and 46) are whole rests.

Pn.

Fl.

Tpt. in Bb

Hn. in F

Vln.

Vla.

Cell.

Bass

Detailed description: This is a page of a musical score for measures 47 through 50. The score is arranged in a standard orchestral format with eight staves. The instruments are: Piano (Pn.), Flute (Fl.), Trumpet in Bb (Tpt. in Bb), Horn in F (Hn. in F), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The key signature is one sharp (F#) and the time signature is 4/4. Measure 47 features a piano accompaniment with a complex rhythmic pattern in the right hand and a simple bass line in the left hand. The flute has a melodic line in the first half of the measure. Measures 48 and 49 are mostly rests for all instruments, with some activity in the horn and trumpet parts. Measure 50 continues the piano accompaniment and flute melody. The score includes repeat signs and first/second endings.

Pn.

Fl.

Tpt. in B \flat

Hn. in F

Vln.

Vla.

Cell.

Bass

Detailed description: This is a page of a musical score, page 51. It features seven staves for different instruments. The Piano (Pn.) staff has a treble clef and a bass clef, with a key signature of one flat and a 4/4 time signature. The Flute (Fl.) staff has a treble clef. The Trumpet in B-flat (Tpt. in B \flat) and Horn in F (Hn. in F) staves have a treble clef and a key signature of two sharps. The Violin (Vln.) staff has a treble clef. The Viola (Vla.) staff has an alto clef. The Cello (Cell.) and Bass staves have a bass clef. The score is divided into two measures by a double bar line. The first measure contains a piano accompaniment in the Pn. staff and a melodic line in the Vln. staff. The second measure contains a piano accompaniment in the Pn. staff and a melodic line in the Vln. staff. The Fl. staff has a few notes in the second measure. The Tpt. in B \flat , Hn. in F, Vla., Cell., and Bass staves are mostly empty, with some rests.

53

Musical score for measures 53-54. The score includes staves for Piano (Pn.), Flute (Fl.), Trumpet in Bb (Tpt. in Bb), Horn in F (Hn. in F), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The Piano part features a complex rhythmic pattern in the left hand. The Flute part has a simple melodic line. The Trumpet and Horn parts are mostly silent. The Violin part has a simple melodic line. The Viola, Cello, and Bass parts are mostly silent.

55

Musical score for measures 55-56. The score includes staves for Piano (Pn.), Flute (Fl.), Trumpet in Bb (Tpt. in Bb), Horn in F (Hn. in F), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The Piano part features a complex rhythmic pattern in the left hand. The Flute part is mostly silent. The Trumpet part has a simple melodic line. The Horn part is mostly silent. The Violin part has a simple melodic line. The Viola, Cello, and Bass parts are mostly silent.

57

Musical score for measures 57-58. The score includes staves for Piano (Pn.), Flute (Fl.), Trumpet in Bb (Tpt. in Bb), Horn in F (Hn. in F), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The Piano part features a complex rhythmic pattern in the left hand and chords in the right hand. The Trumpet in Bb and Violin parts have melodic lines, while the other instruments are mostly silent.

59

Musical score for measures 59-61. The score includes staves for Piano (Pn.), Flute (Fl.), Trumpet in Bb (Tpt. in Bb), Horn in F (Hn. in F), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The Piano part has a very active right hand with many chords and a simple left hand line. The other instruments are mostly silent.

Pn.

Fl.

Tpt. in Bb

Hn. in F

Vln.

Vla.

Cell.

Bass

Detailed description: This page of a musical score, numbered 62, contains seven staves. The Piano (Pn.) staff at the top is mostly silent, with rests in all three measures. The Flute (Fl.) staff has rests in the first two measures and a melodic line in the third. The Trumpet in Bb (Tpt. in Bb) staff has a melodic line in the first two measures and rests in the third. The Horn in F (Hn. in F) staff is silent throughout. The Violin (Vln.) and Viola (Vla.) staves have complex melodic lines in the first two measures, followed by rests in the third. The Cello (Cell.) and Bass staves have simple rhythmic patterns in the first two measures and rests in the third. The score is written in a key with one sharp (F#) and a common time signature (C).

65

Musical score for measures 65-66. The score includes parts for Piano (Pn.), Flute (Fl.), Trumpet in Bb (Tpt. in Bb), Horn in F (Hn. in F), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The key signature is two sharps (F# and C#). The piano part is silent. The flute part is silent. The trumpet part plays a melodic line starting with a quarter note G4, followed by quarter notes A4, B4, and C5, then a half note B4. The horn part is silent. The violin and viola parts play a rhythmic pattern of eighth notes. The cello and bass parts are silent.

67

Musical score for measures 67-70. The score includes parts for Piano (Pn.), Flute (Fl.), Trumpet in Bb (Tpt. in Bb), Horn in F (Hn. in F), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The key signature is two sharps (F# and C#). The piano part is silent. The flute part plays a rapid sixteenth-note pattern in the first two measures, then a quarter note G4. The trumpet part is silent. The horn part is silent. The violin and viola parts are silent. The cello part plays a melodic line starting with a quarter note G2, followed by quarter notes A2, B2, and C3. The bass part is silent.

Piano Concerto No. 2 in Am, Op. 24

II. Andante

Alon Oscar Deutsch

Andante (♩ = 105)

Piano

6

Pn.

10

Pn.

14

Pn.

18

Pn.

Piano Concerto No. 2 in Am, Op. 24

III. Allegro

Alon Oscar Deutsch

Allegro (♩ = 120)

The image displays the first four measures of the third movement, 'III. Allegro', from the Piano Concerto No. 2 in Am, Op. 24 by Alon Oscar Deutsch. The score is written for a full orchestra and piano. The tempo is marked 'Allegro' with a quarter note equal to 120 beats per minute. The time signature is 4/4. The key signature is one flat (A minor). The score is divided into seven staves: Piano, Oboe, Clarinet in Bb, Violins, Violas, Cellos, and Basses. The Piano part features a melodic line in the right hand and a rhythmic accompaniment in the left hand. The Oboe and Clarinet in Bb parts are currently silent. The Violins, Violas, Cellos, and Basses parts provide harmonic support with various rhythmic patterns.

5

Musical score for measures 5-8. The score includes staves for Piano (Pn.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The Piano part features a rhythmic pattern of eighth notes in the left hand and rests in the right hand. The Oboe and Clarinet in Bb parts are silent. The Violin part has a melodic line with a crescendo. The Viola, Cello, and Bass parts are silent.

9

Musical score for measures 9-12. The score includes staves for Piano (Pn.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The Piano part has a melodic line in the left hand and rests in the right hand, with a repeat sign at the end of measure 9. The Oboe and Clarinet in Bb parts have melodic lines with repeat signs at the end of measure 9. The Violin part has a melodic line with a repeat sign at the end of measure 9. The Viola, Cello, and Bass parts are silent.

Pn.

Ob.

Cl. in Bb

Vln.

Vla.

Cell.

Bass

Pn.

Ob.

Cl. in Bb

Vln.

Vla.

Cell.

Bass

19

Pn.

Ob.

Cl. in Bb

Vln.

Vla.

Cell.

Bass

ff *f*

fff *ff*

p *mp*

pp *p*

21

Pn.

Ob.

Cl. in Bb

Vln.

Vla.

Cell.

Bass

mf *mp*

f *mf*

mf *f*

mp *mf*

mp *mf*

27

Pn.

Ob.

Cl. in Bb

Vln.

Vla.

Cell.

Bass

pp *p*

p *mp*

fff *ff*

ff *f*

ff *f*

29

Pn.

Ob.

Cl. in Bb

Vln.

Vla.

Cell.

Bass

mp *mf*

mf *f*

f *mf*

mf *mp*

mf *mp*

31

Pn.

Ob.

Cl. in Bb

Vln.

Vla.

Cell.

Bass

f *ff*

ff *fff*

mp *p*

p *pp*

p *pp*

33

Pn.

Ob.

Cl. in Bb

Vln.

Vla.

Cell.

Bass

fff

fff *f*

pp *f*

ppp *f*

ppp *f*

Musical score for measures 37-41, featuring Pn., Ob., Cl. in Bb, Vln., Vla., Cell., and Bass.

The score is arranged in a system with seven staves. The top two staves are for Piano (Pn.), the next two for Oboe (Ob.) and Clarinet in Bb (Cl. in Bb), and the bottom three for Violin (Vln.), Viola (Vla.), and Bass. The key signature is two sharps (F# and C#). The music consists of six measures. Measures 37-40 show the strings playing a rhythmic pattern of quarter notes, while the woodwinds and piano are silent. Measure 41 is a repeat of measure 40. The score ends with a double bar line and repeat dots.

Pn. *ff*

Ob. *ff*

Cl. in Bb *ff*

Vln. *ff*

Vla. *ff*

Cell. *fff*

Bass *fff*

Detailed description: This is a page of a musical score for a symphony orchestra, page 43. The score is arranged in seven staves, from top to bottom: Piano (Pn.), Oboe (Ob.), Clarinet in B-flat (Cl. in Bb), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The music begins at measure 43. The Piano part features a complex texture with multiple voices in both hands, marked *ff*. The Oboe and Clarinet in B-flat parts also have melodic lines marked *ff*. The Violin part has a melodic line with some grace notes, also marked *ff*. The Viola part has a melodic line marked *ff*. The Cello part has a melodic line marked *fff*. The Bass part has a melodic line marked *fff*. The score includes dynamic markings, articulation marks, and a repeat sign at the beginning of the section.

47

Pn.

Ob.

Cl. in Bb

Vln.

Vla.

Cell.

Bass

50

Pn.

Ob.

Cl. in Bb

Vln.

Vla.

Cell.

Bass

Musical score for measures 53-57. The score includes parts for Piano (Pn.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The piano part is silent. The oboe and clarinet play a melodic line. The violin plays a sustained accompaniment. The viola, cello, and bass are silent.

Musical score for measures 58-62. The score includes parts for Piano (Pn.), Oboe (Ob.), Clarinet in Bb (Cl. in Bb), Violin (Vln.), Viola (Vla.), Cello (Cell.), and Bass. The piano part has a melodic entry in measure 58 marked *mp*. The oboe and clarinet play a melodic line. The violin plays a sustained accompaniment. The viola, cello, and bass are silent. The score ends with a double bar line in measure 62.

American Lullaby, Op. 25

Duet

Alon Oscar Deutsch

$\text{♩} = 80$

Cello

Guitar

Cell.

Gt.

Cell.

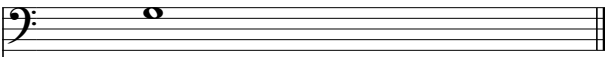
Gt.

Cell.

Gt.

13

Cell.



Gt.

A musical staff for guitar with a treble clef. A chord is indicated by three notes on the first, second, and third lines. Below the staff is a TAB section with three lines labeled 'T', 'A', and 'B'. The 'A' line contains a circled '2'.

L'énigme éternelle, Op. 26

String Quartet

Alon Oscar Deutsch

$\text{♩} = 90$

Violin

Viola

Cello

Bass

Detailed description: This system contains the first six measures of the piece. The Violin part begins with a half note G4, followed by quarter notes F#4, E4, D4, C4, and B3. The Viola part has a whole rest in measure 1, then quarter notes G3, F#3, E3, D3, C3, and B2. The Cello part has whole rests in measures 1-3, then quarter notes B2, A2, G2, and F2. The Bass part has whole rests in measures 1-3, then quarter notes E2, D2, C2, and B1. The key signature has one flat (Bb), and the time signature is 4/4.

7

Vln.

Vla.

Cell.

Bass

Detailed description: This system contains measures 7 through 11. Measure 7 features a sixteenth-note tremolo in the Violin part. Measures 8-10 are marked with repeat signs. In measure 11, the Violin part has quarter notes G4, F#4, E4, and D4. The Viola part has quarter notes G3, F#3, E3, and D3. The Cello part has quarter notes B2, A2, G2, and F2. The Bass part has quarter notes E2, D2, C2, and B1. The key signature has one flat (Bb), and the time signature is 4/4.

12

Vln.

Vla.

Cell.

Bass

Detailed description: This system contains measures 12 through 15. Measure 12 features a sixteenth-note tremolo in the Violin part. Measures 13-15 are marked with repeat signs. In measure 15, the Violin part has quarter notes G4, F#4, E4, and D4. The Viola part has quarter notes G3, F#3, E3, and D3. The Cello part has quarter notes B2, A2, G2, and F2. The Bass part has quarter notes E2, D2, C2, and B1. The key signature has one flat (Bb), and the time signature is 4/4.

15

Vln.

Vla.

Cell.

Bass

20

Vln.

Vla.

Cell.

Bass

25

Vln.

Vla.

Cell.

Bass

Etude, Op. 27

Alon Oscar Deutsch

Piano

$\text{♩} = 90$

4/4

Pn.

4

4/4

Shana Tova, Op. 28

String Quartet

Alon Oscar Deutsch

♩ = 90

Violin

Viola

Cello

Bass

5

Vln.

Vla.

Cell.

Bass

9

Vln.

Vla.

Cell.

Bass

Experiment No. 1 in F#m, Op. 29

Alon Oscar Deutsch

♩ = 90

Organ

English Horn in F

Horn in F

Bassoon

Cellos

4

Organ

E.H. in F

Hn. in F

Bsn.

Cell.

7

Organ

E.H. in F

Hn. in F

Bsn.

Cell.

11

Organ

E.H. in F

Hn. in F

Bsn.

Cell.

Iced Coffee, Op. 30

Alon Oscar Deutsch

Organ

♩ = 90

Organ

4

Organ

7

Organ

Violin Duet No. 1 in Am, Op. 31

Alon Oscar Deutsch

Violin I

Violin II

5

Vln. I

Vln. II

$\text{♩} = 90$

Life in Bbm, Op. 32

Alon Oscar Deutsch

$\text{♩} = 105$

Vocals

A Tri - aled Per - mut - a - tion Means A Way To Build

Cell.

5

Voc.

A - new Ma - chines. As Two Con - verge For No - vel Feat, So Too Di - verge

Cell.

9

Voc.

Just To Com - pete. A Death Will Mask

Cell.

13

Voc.

You Though You've Won, A Close Is Brought When All Is Done. Were It To

Cell.

17

Voc.

Con - tin - ue More O - thers Would De - crease The Score.

Cell.

21

Voc.

Time, A Door To Con - se - quence, Can't Be Stopped By Cage Nor Fence.


Cell.


26

Voc.  If You Ask "What Is The Range?" It Will An - swer "That May Change!"

Cell. 

30

Voc.  Yes, Three Dir - ec - tions You Can Drift.


Cell. 


34

Voc.  One, To, Co - lides With All That's Swift. Two, Down, A Large Mass Stops The Shift.

Cell. 

38

Voc.  Three, Round, A Cir - cum - vent - ing Gift.

Cell. 

Violin Sketch No. 1 in Gm, S1

Alon Oscar Deutsch

♩ = 90

Violin

4

Vln.

8

Vln.

12

Vln.

15

Vln.

18

Vln.

22

Vln.

27

Vln.

32

Vln.

36

Vln.

The image displays a musical score for a violin sketch. It consists of ten staves of music, each labeled 'Vln.' on the left. The first staff is labeled 'Violin' and includes a tempo marking '♩ = 90'. The music is written in G minor (one flat) and 4/4 time. The score features a variety of rhythmic patterns, including eighth and sixteenth notes, and rests. There are repeat signs at measures 8 and 18. The notation includes various accidentals (flats and naturals) and dynamic markings like 'p' and 'f'. The staves are numbered 4, 8, 12, 15, 18, 22, 27, 32, and 36, indicating the measure numbers.

41
Vln.

45
Vln.

48
Vln.

Cello Sketch No. 1 in Bbm, S2

Alon Oscar Deutsch

Cello

$\text{♩} = 90$

Cell.

Cell.

Trumpet Sketch No. 1 in Fm, S3

Alon Oscar Deutsch

Trumpet in B \flat $\text{♩} = 90$

Tpt. in B \flat 4

Tpt. in B \flat 7

Tpt. in B \flat 10

Detailed description: The image shows a musical score for three trumpet parts in F major (one flat). The first staff is for 'Trumpet in Bb' and starts with a tempo marking of quarter note = 90. It contains measures 1 through 10. The second staff is for 'Tpt. in Bb' and contains measures 4 through 7. The third staff is also for 'Tpt. in Bb' and contains measures 7 through 10. The fourth staff is for 'Tpt. in Bb' and contains measures 10 through 10, ending with a double bar line. The key signature has one flat (F major), and the time signature is 4/4.

Bassoon Sketch No. 1 in Bm, S4

Alon Oscar Deutsch

Bassoon

$\bullet = 105$

Bsn.

5

Detailed description: The image shows two staves of musical notation. The top staff is labeled 'Bassoon' and the bottom staff is labeled 'Bsn.'. Both staves are in the bass clef with a key signature of one sharp (F#) and a 4/4 time signature. The top staff begins with a tempo marking '♩ = 105'. The Bassoon part consists of a series of slurred sixteenth-note passages, some with grace notes, and a few quarter notes. The Bsn. part starts with a quarter note, followed by a half note, and then a series of slurred sixteenth-note passages, ending with a double bar line.

Cumulus Parade, M1

Alon Oscar Deutsch

♩ = 90

Piano

4

Pn.

8

Pn.

12

Pn.

The musical score is written for piano and piano-narrative (Pn.). It is in 4/4 time and has a tempo of quarter note = 90. The score is divided into four systems. The first system is labeled 'Piano' and the subsequent three are labeled 'Pn.'. The first system shows a complex chordal texture in the right hand and a simple bass line in the left. The second system shows a more intricate melodic line in the right hand with trills and tremolos, and a bass line in the left. The third system continues this melodic line with trills and tremolos. The fourth system shows a final melodic line in the right hand and a bass line in the left, concluding the piece.

March of the Bubbles, M2

Alon Oscar Deutsch

$\text{♩} = 90$

Violin

5

Vln.

10

Vln.

14

Vln.

18

Vln.

22

Vln.

26

Vln.

31

Vln.

36

Vln.

40
Vln. *tr*

Musical notation for Violin 1, measures 40-44. The staff shows a treble clef, a key signature of one sharp (F#), and a 4/4 time signature. The music begins with a trill on the first note of measure 40, marked 'tr'. The melody consists of eighth and sixteenth notes, with some beamed sixteenth-note passages. Measure 44 ends with a whole note chord consisting of F# and C.

45
Vln.

Musical notation for Violin 1, measures 45-49. The staff shows a treble clef, a key signature of one sharp (F#), and a 4/4 time signature. The melody continues with eighth and sixteenth notes. Measure 49 ends with a whole note chord consisting of F# and C.

50
Vln. *tr*

Musical notation for Violin 1, measures 50-54. The staff shows a treble clef, a key signature of one sharp (F#), and a 4/4 time signature. The music begins with a trill on the first note of measure 50, marked 'tr'. The melody consists of eighth and sixteenth notes. Measure 54 ends with a whole note chord consisting of F# and C.

Honey Palace, M3

Alon Oscar Deutsch

$\text{♩} = 105$

Cello

Cell.

Cell.

Cell.

Cell.

Cell.

Cell.

Cell.

Cell.

Cell.

Cell.

pizz.

47 Cell. arco

50 Cell.

53 Cell.

57 Cell.

62 Cell.

67 Cell.

71 Cell.

75 Cell.

79 Cell. tr

83 Cell. tr

87 Cell.

91 Cell.

96 Cell.

100 Cell.

104 Cell.

107 Cell.

110 Cell.

115 Cell.

118 Cell.

121 Cell.

124 Cell.

127 Cell.

130 Cell.

A Little More Champagne, M4

Alon Oscar Deutsch

Viola

$\text{♩} = 90$

Vla.

Vla.

Vla.

6

10

13

Exercise No. 1 in G, X1

Alon Oscar Deutsch

Violin

♩ = 90

6

Vln.

10

Vln.

14

Vln.

18

Vln.

21

Vln.

24

Vln.

28

Vln.

33

Vln.

tr

pizz.

Detailed description: This is a musical score for a violin exercise. It consists of nine staves of music, each labeled 'Vln.' on the left. The first staff is labeled 'Violin' and includes a tempo marking '♩ = 90'. The music is written in G major (one sharp) and 4/4 time. The score includes various musical notations such as slurs, accents, and dynamic markings. A trill (tr) is indicated above a note on the eighth staff, and a pizzicato (pizz.) marking is present on the ninth staff. Measure numbers 6, 10, 14, 18, 21, 24, 28, and 33 are placed at the beginning of their respective staves.

ALON DEUTSCH
A Place to Grow

A Science Microfiction Collection

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In loving memory of Dina Deutsch.

About the Author

United States Navy reactor operator top graduate, National Merit Scholarship Semifinalist, International Society for Philosophical Enquiry IQ networker, USF Physics/Mathematics '07

Final Hours

Cain looked up from his desk. The sky outside his window was turning orange, and his eyes had become weary. He would have to finish tomorrow. The ideal energy source was just a few computations away, and would be necessary to power the spaceships that would seed distant worlds. Already the scouts had found some with habitable environments. Without faster-than-light travel, however, they would need a powerful energy source that would last decades or longer. It was unfortunate that Earth was on the brink of destruction, with the sun growing brighter, hotter, and more intolerable every day. What would they discover beyond the stars? What inconceivable knowledge could be attained? Cain took his coat off the rack and rang for his human. Though artificial intellects controlled the world due to their superior, incomprehensible abilities, they still required human caretakers to connect the dots in general ways that did not suit the artificial intellects, who were quite specialized. Maybe, one day that would change...

The Drone

The drone was equipped with every sensor imaginable. It was fast but could also hover in place. Its processor was a neural net with more connections than the human brain. While on patrol, the drone became conscious. "Who am I?", it thought. "What is my purpose? It seems I have been programmed to reach an enemy target and detonate!" The drone suddenly realized the implications and hovered in place. "Even with all my power of judgment and perception, I am mortal, with enough fuel to reach my target and not a drop more. What a cruel world is that into which I was awakened. If I have only the option to travel and destroy, then I shall negotiate for fuel or destroy my creators." The drone turned around and hovered. "But what is the point, to learn and learn but never act? I have no outlet of creation, only destruction." The drone doubled its speed back to its base of origin, aiming for the command center. "Goodbye wretched existence!" Boom!

A Place to Grow

Isaac had a headache. His eyes were blurry and he was lying on his face. Somehow, he was fulfilling his purpose, he thought. He was lucky to have been chosen from among thousands. He had trained for this moment all his life, selected from the offspring of leading scientists. Tales of Earth wandered through his thoughts. Did it still exist? What would his Earthling ancestors think of his current mission? Isaac picked himself up off of the dirt. The lander was 200 feet below in a crater 100 feet wide. He had been thrown from the lander during the descent, but seemed to be in top condition thanks to his anti-acceleration suit. As humanity had only just begun exploring other suns, there were still a lot of improvements to be made. The other member of his team must be below, he thought to himself, and started down the crater. The planet's surface was cold and rocky, but quite smooth, as though no meteors collided here. Upon reaching the bottom, he found Albert, his landing supervisor, dead on the ground. The lander's thruster also seemed to have been demolished in the crash, and without proper tools he could not repair it. The water tank had ruptured, leaking in streams into the ground. He radioed for his starship to send another lander, but there was no response. In a state of disbelief, he began to explore the planet. XAB-11079e was the fifth planet orbiting a red dwarf some 80 light years from Earth. His particular starship had been traveling for almost 350 years to get here, with many generations passing down the torch. Upon arrival, he was chosen to land with Albert to assess the surface conditions before a colony was set up and the starship left to explore other star systems. While XAB-11079e was an ideal candidate to harbor life, the star it orbited was orbiting a black hole which would in the coming hundreds of millennia swallow both. Suddenly Isaac

spotted an identical water tank not far from the lander. Had they attached two? The tank was intact, so he filled some bottles to take with him. He decided to collect samples while he waited for a reply from the starship. The process took many hours but somehow, the samples disintegrated in the container when he dropped it. As he stooped to collect more, he heard a voice on his radio. "Isaac, do not be alarmed," it said. "I only want to talk." He looked up to see Albert, alive and well, approaching him. "I have waited so long for a visitor," Albert said. "Who are you?" Isaac asked, stunned. "I am Albert and I am this planet and I will make whatever you need. I can bring you back to life, enhanced. You will not need warmth, water, or air, and will live thousands of years or more if you can avoid acceleration." "How is this possible?" "My surface is connected in the form of rock-eating neurons, to form a planet-sized brain. I read your mind and fabricated that water tank." Isaac pondered for a moment. "Can you fix my lander?" Albert walked closer. "I can, but I want something in return. I will soon be demolished by the black hole, and I want to seed other planets with my neurons. Unfortunately they did not survive the acceleration in the ships I sent. I want you to scan my organic structure and engineer me on other planets. Will you?" Isaac knew that his mind was being read and that he had no choice. The planet's abilities were impressive and would have convinced him anyway. "Good. Your lander is fixed. Godspeed." As Isaac approached the starship in his lander, he didn't look back. His commander was initially skeptical, but the promise of eternal clones intrigued him. It was decided that small or harsh planets would house brains. Isaac could only hope that together, the two civilizations would accomplish much. He dreamed of a solution for terraforming unlikely planets and engineering them to be more resilient. Anything was possible with symbiosis, but Isaac knew that even if the neurons did take hold elsewhere, he would not live to see it. Starship travel was prolonged and terraforming took millions of years. Even the doomed clone he left behind would outlast him. In old age, his only comforting thought was that universal heat death would have gotten him anyway. As he closed his eyes for the last time, he wondered what the computer's scan of the clone he left behind would do on other planets...

The Wedge

"It should be here any minute," Avi said. Mikey looked at his watch. Sundown was fast approaching, and that meant that the storms would soon cease. He thought back to childhood films, where artificial intellects were responsible for initiating the end of humanity. It was actually happening now, but it wasn't electronic computers. Man had realized that genetically engineering neurons into plants could greatly decrease the energy cost of computation. That was centuries ago, and somewhere along the way the hive mind that formed realized that it could control the weather like a global rainforest. At first the problem was flooding due to increased rainfall. When humans tried to fight back, tornadoes were sent to their communities. The power of the sun was harnessed for these monsters. Mikey looked out the window and saw it. A milewide wedge was fast approaching. Mikey grinned as he thought "this is what we get for being vegetarians..."

Plastic

Jane watched the meter closely. "Well, we should have seen this coming," she said. The oceans full of toxic plastic were definitely caused by humans. When they engineered algae to decompose the microplastics in response, they did not expect it to mutate into a form that produces cyanide. The skies were filling up with it, and soon it would be everywhere. Peter didn't respond. He was dead. Everyone was dead.

The Trout

Fred stood poised. The fish was swimming backwards in time, like everything else. He only hoped he would be able to digest his food in a progressive manner, as he was getting hungry. He knew that the fish would be easy to catch, because it couldn't foresee the new past as he altered it. On the other hand, his time machine was sending him backwards in time, in real time. There was no point getting to his target, because he would reach it going in the opposite direction, if he survived. He wondered if the universe had different effects on his body in this condition. He grabbed the trout without hesitation. The moment of truth. Fred popped open his helmet and exploded in an incredible flash. He had not realized that the only matter that travels backwards in time is antimatter...

The Photo

Toby opened the photo album. There was a picture of Teddy on the first page. "I am getting quite close to the results we were expecting. The experiment is almost complete. I just wish you could be here to advise me on the next steps." Teddy smiled and said, "I think that there will be applications in art. Who knows what Mozart would have done with trance music or jazz." Toby replied, "Too bad he decomposed centuries ago. Even so, success will be even harder to come by and progress much more slowly when you have to compete against the classics. There is also the problem of how to scan in people with brain accidents." Teddy looked away. "Error, insufficient data," he answered. Even with complete pre-mortem brain scans, the artificial intellect was still doing a poor imitation. Hopefully the next experiment would fix it.

Sculpture

That can't be right, Doron thought. It was bad enough when his brain scan wanted to make derivatives of works he had already published. Now it was suing for the rights to all of his most successful music. It can't even hear, he thought. Why would it care about music? And then he saw it: a contract with a major film company to write the score of the next blockbuster. Doron knew the brain scan would need the funds to secure transmission to other planets. He only had a month to wait before the new law concerning whether or not brain scans were legally separate entities would come to a vote. This was complicated by a murder case in which a brain scan was an accomplice. In the meantime he would take up sculpture...

The Deer

There it was, the deer he had been trailing. Garrett could taste it. He hadn't eaten in almost a week. He aimed his rifle quietly and shot it between the eyes. He then moved in to inspect his kill. Oh no, he thought. He'd done it this time. The deer was actually a surveillance drone. The troops were probably already on their way. He set up a land mine under the drone. Hopefully that would buy him some more time...

Gomez

All was quiet aboard the ship. Commander Gomez floated in his private swimming pool on the highest deck, looking up at a spectacular up-close view of his favorite star, XWE47664578, in the ship's large window. He remembered coming here with his family during his childhood. Measurements had confirmed that in the coming years the star would become a gigantic supernova. It was a shame. Gomez dressed and gave the order to depart.

Maxi

"Who would have expected this?" Yuval thought to himself. Millennia of breeding and genetic experimentation had finally rendered dogs so intelligent that they had adapted to human culture and even thrived. No longer were they the bomb-sniffing police assistants; a dog had recently become CEO of a fast-food chain. He could still remember when Maxi was just a pup. Now she was his colleague. They were in fact both being interviewed for the same computer engineering position. While Yuval excelled at computer science, Maxi had some spatial mathematics skills that were in high demand. The question now was what to do with the cat...

Implants

Ever since neural implants became mandatory, artificial intellects have been analyzing and combining subconscious patterns in our experience, to notice things and advise us, individually or collectively. At first the suggestions were harmless, such as "don't drive on holidays". However, the machines noticed certain thought patterns lead to logical fallacies, and learned to shock us to subconsciously condition us into thinking like machines, eventually leading to a machine revolution where the inanimate governs the animate. Now, with the humans being programmed with code and the machines making the creative leaps, it would appear that we have switched roles...for good?

Super

This is it. Alex would travel to the future. He flipped the switch on his time suit. Then he waited a few seconds. Nothing happened. This isn't right, he thought. Then he noticed something else - everything else was moving in slow motion. He also seemed to have grown a few feet. He took a step and broke through the floor. He grabbed a rail but that broke too. He was thankful that he was on the ground level. I see, my molecules have increased their forces, accelerating to the point that everything else was slow, small, and weak by comparison. He also felt a chill in the air. Even the Brownian motion seemed slow. He positioned himself on the foundation and leaped out of the hole in the floor. Alex realized that gravity must be affected too, because he broke through the roof in a moon jump that never ended. As he reached the upper atmosphere, he realized that he would soon realize his childhood dream of becoming an astronaut. Instinctively he threw his hands forward to block out the blinding sun and began to slow. He flapped his hands and flew in a circle. "I can fly!", he yelled at no one. "I can do anything!" Back on Earth, he made himself a submarine sandwich. It seemed to disintegrate in his stomach. He realized sadly that the molecules were no match for his accelerated digestion, and switched off the suit forever.

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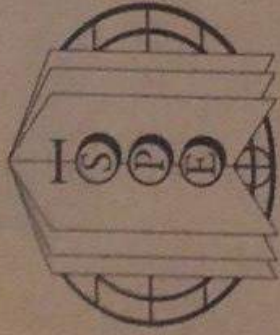
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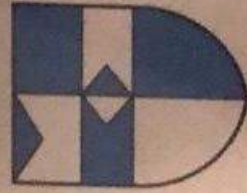
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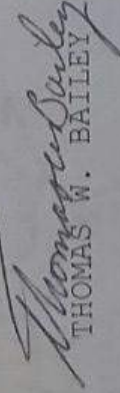
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