Défaire l'Occident — Outline

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(~5000 words total)

Introduction _____ ~600 words; 5 minutes [0 – 5]

A. I apologize that I am unable to speak in French
   1. But translating *languages,* from English to French, is just one of 3 translations you will have to do
   2. I am also no political theorist
      a. I come from a technical background: computer science & artificial intelligence (AI)
      b. And in the technical communities in which I work, the term 'cybernetics' is not used in the way it is being used here…especially the phrase "*second cybernetics*"
         i. The word is just used for first wave cybernetics—Weiner, and perhaps von Forrester. Not really, even, for Maturana, autopoietic systems, self-organization, statistical analyses, non-linear dynamics.
         ii. In fact most of computer science views computation as defined in *opposition* to cybernetics, in ways I will try to explain.
      c. So while, in this talk, I will speak about ideas that I believe form the conceptual ingredients out of which second wave cybernetics is formed, at the same time I do not want to pretend that 'cybernetics' is a term I own.

   d. The relevance of (i) what I say to (ii) second-wave-cybernetics-as-you-understand-it is a second translation, that you will have to mediate.
3. Finally, it will be obvious, from my intervention, that to the extent I am a philosopher, I come from the Anglo-American, so-called "**analytic**," tradition. So translating my remarks into discursive, continental philosophy will require a 3rd translation!
4. So huge thanks to all of you, for performing this *triple translation*.

B. Here is the plan. There will be 4 sections:
1. I will start with some history, mostly 19th c. and early 20th, in order to identify the intellectual developments that allowed both cybernetics and computation to emerge
   a. This history is important, not only because we can identify specific metaphysical presuppositions on which cybernetics rests,
   b. But also because it will allow us to
      i. See some things that were *lost,* in the development of the contemporary age,
      ii. And by understanding *how they were lost*, get an idea as to how to fight to get them back.
2. Second, I want to chart a confluence of intellectual developments
   a. Which not only underline our current understanding
      i. Of *computation* and
      ii. Of *cybernetics*
   b. But which affects other parts of contemporary science—such as
      i. *Evolutionary psychology*,

   ii. *Sociobiology*, and
   iii. The attempt to recruit evolutionary arguments to provide "scientific grounds" for normativity.
c. I see these evolutionary developments
   i. As part of the same overall intellectual trend as cybernetics and computing
   ii. And, in their own way, as just as terrifying.

3. Third, in terms of these developments, I want to characterize *cybernetics* and *computing*
   a. Start with first-wave cybernetics, in terms of Weiner and feedback, and such
   b. Then the origins of digital computing
   c. Then second-wave cybernetics
      i. —they are *wrong*ot as an ideology
      ii. But as a *meta-ideology*, that can subsume any other ontology or ideology into a specific cybernetic form
      iii. To fight against it, I will argue, requires not fighting against it *as such*, but against the *way in which it torques, modifies,* and *reconfigures* everything else that we do and say.
4. Fourth, I want to talk specifically about computation, for two very specific reasons
   a. First reason
      i. While the overall cybernetic development is extremely problematic
      ii. Contemporary conceptions of computing and information technology, I believe, are actually *false*—they are *wrong*

iii. How they came to govern our theoretic imaginations, and why they are false, emerges directly out of the set of intellectual developments we will lay out in the second and third part.

b. Second reason

i. It is absolutely essential, I believe, for us to understand that there is *nothing intrinsic* to computation that requires us to understand or use computation *under a cybernetic conception*.

ii. In other words: *computation does not equal cybernetics.*

iii. That opens up a very potent and important possibility:

α. That we develop computational systems, and recruit the power of digital technologies, in ways that provide a *progressive route forward—outside* the grip of the cybernetic imagination.

C. OK, that's the plan.

Section I • Logic & History _____ ~1000 words; 8 minutes [5 – 13]

A. Descartes

1. René Descartes is most famous for
   a. Introducing the divide between the mind and the body
   b. And attempting to provide a proof for the existence of God
2. Neither of these things, I believe, are what matters about Descartes
3. Rather, we should understand Descartes as introducing a "division of labour" that was ab-

solutely sensible, at the time

a. On the one hand—on the side of the body, on the side of *res extensa*—is the physical world of *causal mechanism*—things that could cause, and that were subject to cause—i.e., the world of *causes and effects*. This is the realm that became the province of "natural science."
b. On the other hand—on the side of the mind, and God, but also of a whole lot of other things—were the things that *weren't obviously causal*: things like *thinking*, and *theories,* and *symbols*, and *mathematics*, and so on.

4. So for discussion, I will say that there is
   a. A **lower strand**, of the causal stuff—subject to mathematical (numeric) analysis, and
   b. An **upper strand**, of the rest—including signs, symbols, theories, understanding, etc.
5. Remember, Descartes is the person who *arithmetized geometry*, and applied it to science—i.e., to the lower strand
   a. The physical-mechanical realm, at the time, was understood *geometrically*
   b. It was crucial to the subsequent development of science—from Newton to contemporary non-linear dynamics—to come up with a way to understand the worlds of cause & effect in terms of *numbers* and *mathematics*
   c. So that was a critical property of the lower strand: it, *and not the upper strand*, was mathematized

B. That is how things stood for a long time
   1. Science—the mathematical analysis of the lower strand, the strand of causes & effects—

was wildly successful.

2. Over time, the number of things that got understood scientifically—that got incorporated into that lower strand—grew and grew and grew.
3. Eventually, not surprisingly, the question arose about mind, and rationality, and symbols, and theories—i.e., the stuff on the upper strand
4. Could one give a physical-causal (lower-strand) account of *them?*
5. This was the origin of the development of formal logic
   a. Boole's *Laws of Thought*, in 1853
   b. Followed by Peirce, and semiotics
   c. Frege, and his attempt to derive mathematics from logic
   d. On into the 20th century…including Russell, Gödel's incompleteness proofs, Turing and the invention of the computer, and so on and so forth

C. Now formal logic has a bad name, in many quarters
   1. In particular: its view of reasoning as *individual*, *de-contextual*, *absolute*, *ontologically definite*, *divorced from emotion*, *divorced from action*, etc.
      a. I agree that these are all fundamental problems with logic—which we will get back to
   2. But in spite of these problems, there was also something profoundly important about logic as originally conceived, which we need to understand if we are to successfully resist cybernetics
   3. To understand this thing that is good, we need to understand something about **semantics**

D. Semantics

1. Symbols, reasoning, thoughts, theories, words, formulae, etc., are fundamentally distinctive because they
   a. **Mean** something
   b. Have **interpretations**
   c. **Refer** to objects, events, phenomena
2. That is: symbols, thoughts, words, etc., have **semantics**
3. And there is something important about meaning, reference, and semantics: it is **not obviously a physical, mechanical thing**
   a. *Causal* phenomena—the stuff on the lower strand—are required, by the laws of physics, to be **local** in both *space* and *time*
      i. Don't be distracted by quantum entanglement, and various recent demonstrations of quantum non-locality; that isn't relevant to what is going on here.
   b. Semantics, however, is *fundamentally not local*
   c. For example, consider *reference—referring* to something, or to someone.
      i. Reference reaches wildly across space and time, in a way that nothing physical can
      ii. It reaches across time—from the Pharaohs of Egypt, to the first woman President of the U.S.
      iii. It reaches across space
         α. To the minutest corner of Mother Teresa's examination room, more accurately than any laser
         β. To the sun, without taking 8 minutes to get there

χ. Outside our light cone!

iv. Across possibility, too—to that which doesn't even exist?

d. Moreover, semantics is not physically detectable

i. For example, as I tell my students, not even the U.S. government can build an iPhone app that would beep any time *anyone thought about you*

ii. Nothing physical happens, when you are the subject matter of someone's thoughts or words.

iii. Yet that does not mean that you *aren't* thought about, or referred to

iv. There is nothing *magic* about reference—at least nothing *supernatural*

v. It is just that semantics involves *long-distance relationships* across and beyond the physical world, in ways that we have yet to understand.

4. So given these amazing facts, how did the logicians imagine that they were going to construct a causal/physical account of meaning, reference, and semantics?

a. They didn't!

b. No one thought you could!

c. That was never the idea behind formal logic

d. Rather: the project was to construct a mechanical account of the reasoning process that **honoured** the semantics—be held accountable to them

e. That is, logic's project was to figure out how causal/mechanical system could

i. Operate within the constraints of physical embodiment

ii. **Honour** the long-distance semantic/normative conditions

5. The important point is this (and this is going to hold about computers, too, when we get to them):
   a. *What matters about symbolic/semiotic systems is* **not how they work**.
   b. Rather: they *matter to the extent that how they work (the mechanical consequences, the behaviour that results, etc.)* **honours that to which they defer**.
6. In sum, there is a fundamental **deference** of any logical, symbolic, or semiotic systems
   a. To the *meaning—w*hich in turn means, to the **world**
   b. A kind of **humility** built into logic
   c. Keep this in mind:
      i. **What is mechanical must be held accountable to that which transcends it**

Section II • The Twentieth Century _____ ~1600 words; 13 minutes [13–26]

A. Intro
   1. OK, move into the 20th century
   2. All this semantics, deference, and accountability **got lost**—because of a profound shift in our "official" intellectual sensibility onto **mechanism in itself**, as a result of 4 coinciding intellectual developments.
B. First was simply the expanding power of both science and engineering
   1. Distribution of electricity
   2. Invention and distribution of the telephone and telegraph

3. Plus cars, railways, etc.
4. I needn't say more about it here, but the importance of 20th c. engineering should not be underestimated.

C. Second was the collapse of the Enlightenment Dream—the idea that we could have a perfect, absolute, transparent, complete *understanding of the world*
   1. This collapse, in turn, had multiple origins
   2. First, it was partly due to some of the *semiotic/semantic* developments that Emilion spoke about
      a. The incompleteness results in mathematics
      b. The paradoxes in set theory
      c. The non-computability results of Turing
   3. It resulted in a crisis in language, thought, and mathematics, about which I might say just 3 quick things:
      a. First, these incompleteness results *are only intelligible in terms of the semantics and deference of which we have already spoken*
         i. There are mathematical truths that we cannot reach, mechanically (in any mechanical system)
         ii. Those truths exist—they are true, they are metaphysically secure, they are perfectly determinate.
         iii. But the mechanisation of mathematics *falls short of them*.
      b. Second, these limits arise *even in the ridiculously limited world of formal mathematics*

i. I.e., in a realm that is absolutely ontologically determinate
ii. Imagine how much more true it must be when the world is not even that neat!

c. Third, this "crisis" is only a crisis if you are wedded to the Enlightenment Dream.
i. Per se, it is not a problem!
ii. We are finite, physical creatures
iii. Yes, our understanding falls short of what is the case. We can't figure everything out
iv. So what? That seems fine to me. It helps us to continue to feel small!

4. This crisis generated a good deal of intellectual *panic*
a. It caused everyone to become *self-referential*—to look *at their language, their tools*
i. Make sense, in terms of Heideggerian breakdown
ii. When language seemed to be working, you could use it to speak about the world
iii. When language seemed to be broken—or at least not to do what one had hoped it would do—everyone started looking at *language itself*
iv. As a result
α. Mathematics turned into meta-mathematics
β. Logic became obsessed with formal systems and proof theory
χ. Novels started to be written about novels (e.g., Calvino), etc.…

b. I.e., forgetting about deference and semantics, the semiotic/semantic/epistemic traditions started looking *at the mechanical signs.*

D. The third development that shifted our focus to mechanism were weird results in physics itself
1. At the level of the very large: the weirdness of relativity, and its lack of an absolute refer-

ence point

2. At the level of the very small: the indeterminacy of quantum mechanics ("God playing dice with the universe")
3. And at the level of the very complex, as become evident in the development of chaos theory and non-linear dynamics
4. Note: it is important to note that these physical results, coupled with the epistemic limitations mentioned above, combined together to drive *an irrevocable wedge between* **determinism** *and* **predictability**
   a. Not fully realized by many people, even today.
   b. But it has been absolutely proved, over and over again, that
      i. Just because something is *deterministic* (no chance, no divine intervention, etc.)
      ii. That does not imply that we can *figure out* or *predict* what it is going to do, or be, or happen.
      iii. The beginnings of *emergence*

E. Finally, a fourth development supported this shift in focus to mechanism
   1. Intro
      a. This one came from a somewhat surprising source—Wittgenstein and Heidegger
      b. It emerged in a shift from semantics, reference and truth to a focus on **behaviour**
   2. I said, before, that the decontextualized, absolute, pure ontological structure of logic is problematic
      a. Lots of people recognized that this is not what human life is like

b. Far from being "independent of what people do" (as if God-given), semantics and interpretation clearly depend, at least in part, on *thick human engagement*—on what people do (in their life, or their form of life, whatever)
c. So instead of following a rule by responding *semantically* to an articulated proposition, following a rule means *acting in accord with a life practice*.
d. Summarized in the Wittgensteinian slogan that "meaning is use"

F. The mechanical restriction
1. Intro
a. I don't believe that the shift in focus from *detached reference* to *engaged behaviour* was meant to be reductive (in particular, a proper reading of Heidegger does not give Dasein a behaviourist reading)
b. But perhaps inadvertently, this behavioural focus meshed with the focus on formalism and signs instead of semantics and reference, and fit into the rapidly developing engineering efforts, and meshed as well with numerous other intellectual developments and unlikely bedfellows, such as logical positivism and its reaction against the romanticism of the Social Democrats in Germany.
c. It all led to something that I believe may be the most important metaphysical constituent of cybernetics
d. Something I call the **mechanical restriction**
2. The focus on the locally physical, the mechanically effective, etc., took over, as the reigning scientific intellectual viewpoint

   a. Not just as a concern with *how things work*
   b. But as a **metaphysical assumption**, in terms of **what exists**
   c. That is, it was a 3rd step in a 3-step series of developments
      i. First, with Descartes: that only some things are causal—but not reasoning or mind
      ii. Second, with logic: that reasoning has a causal basis, which must *honour that to which it defers*
      iii. Third, with the mechanical restriction, that *all there is is that which is causal*.
3. Restrictionism is not the same as reductionism
   a. *Reductionism* says that everything can be *explained* in terms of causal entities—causal properties, causal arrangements, etc.
   b. The **mechanical restriction** is stronger
   c. It is also not what philosophers call *eliminativism*—that you explicitly dispense with everything that is not physical or causal
      i. I.e., instead of saying "I like you", you say "my oxytocin levels have increased by 17%"
   d. Restrictionism is worse: you *translate everything into its causal projection*
      i. A little like projecting it onto Plato's cave
   e. For example, you might *redefine friendship* as an increase in oxytocin levels.
4. Think about how this is going to work—for thinking (information, reference, symbols, etc.)
   a. Instead of viewing physicalism as suggesting that thought *has a material basis*, which has to *honour that to which it defers*

b. You identify *thought with its physical basis*
   i. So that all of the genuine reference, interpretation, deference, etc., disappears
c. Computation is not symbol / information manipulation that is *accountable to what it is about, accountable to that to which it defers*
d. Computation just *is the rearrangement of digital configurations*.
e. Similarly: being religious
   i. You can see this all over the place
   ii. People are identifying "being religious" as *the excitation of a certain part of the brain*
   iii. As opposed to what my Dad said, when asked, on stage, whether he was religious.
      α. "Well, I don't know about that," he said. "Ask my neighbour".
      β. I think that is a better answer.

5. And computation is not the only case.
   a. Think about
      i. Non-linear dynamics
      ii. Emergent properties
      iii. Self-organization
   b. All these things are characteristic of the age; and all are understood under the mechanical restriction

G. Two examples, to show this restriction in action.
1. Maturana
   a. In the San Francisco Bay area, in the 1980s, there were discussion groups among

i. Hubert Dreyfus (critique of AI, and proponent of Heidegger)
ii. Terry Winograd (one of the main AI theorists)
iii. Humberto Maturana
iv. Francisco Varela
v. Fernando Flores

b. Henry Thompson and I, graduate students at the time, attended many of these meetings
c. There was a manuscript of Maturana's and Varela's book on autopoietic systems, and the definition of *meaning emerging as a result of structural coupling*
   i. I was **dismayed**
   ii. "Mechanism! Biology!" I remember writing all over the margins. This is not meaning!
   iii. The deference, that understanding that semantics involves commitment to that which is larger than *what is happening right here*—the non-locality of semantics. They were all being disappeared!
   iv. Even then it was obvious that something was going seriously awry.
d. Discussion
   i. Some people credit Maturana with introducing the notion of self-organization, emergence, etc.
   ii. Others disagree, and trace the development of non-linear dynamics, self-organization, etc., through the "complex adaptive systems" history at the Santa Fe Institute (Stuart Kaufman, etc.)
   iii. I don't care about that part of the history

iv. What I care about—what I do not forgive Maturana for—is his identification of *meaning*, and other semiotic/interpretive notions, with *pure mechanical interaction*.
v. I think Maturana is culpable as one of the first progenitors of the mechanical restriction.

2. Latour
   a. A second example is Bruno Latour, and a great many other contemporary theorists
   b. They are *arrayed* against reductionism, supporting the rhizomatic imbrication of everything with everything else, in infinitely interfiliated politically engendered complexity.
   c. But although they stand strongly against reductionism, I fear they, too, have submitted to the mechanical restriction.
   d. Think of Latour's patterns of circulating references, all of which the thinks *you can see happening with a television camera.*
      i. Real reference, semantics, etc.—not mechanically restricted—*cannot be captured on a videocam!*

Section III • Cybernetics and Computing _____ ~1000 words; 8 minutes [26-34]

A. We now have the ingredients in terms of which to understand the emergence of cybernetics and computing
B. Cybernetics–1
   1. The first wave of cybernetics was not, in and of itself, so problematic
   2. It was fundamentally, and it recognized itself as being, fundamentally a *mechanical phenom-*

enon

3. The challenge it addressed: of how to get purpose, teleology, etc., out of a pure mechanism
4. There was no pretense of its being semiotic; there was no meaning or semantics, originally
5. This is the province of Weiner, etc.
   a. Feedback, control, homeostasis, etc. ⇐ stunning power
6. Still reasonable science
7. It is crucial to note, though, that it was "scientific" in the sense that reaches back to Descartes and mathematics: in order to constitute a cybernetic system, all of its dimensions had to be **mathematized**—had to be understood as properties that you could **measure**—properties for which you could use **numbers**
   a. If we were doing this carefully, we would have a digression, here, on "measure properties"—things of which you can ask "how much?" "how many?", etc.
   b. I won't go into them, except to note that genuine meaning is not like that. Suppose someone hands me a note. What does the note mean? It means "*fortunately, we are not going to run out of propane before the end of Friday evening"*. That's not a number; that's a *complex structured fact*—a very different kind of thing.
8. Anyway, in spite of its restriction to mechanism, this restriction to numerical or measure properties, etc., there was a recognition, at least among the best scientists, that not everything would succumb to this model (society, human affairs)

C. Computing
   1. Intro

a. What about computing?
b. We have to understand the emergence of computing, before we get to 2nd wave cybernetics

2. Symbols
   a. In many ways, computing, as it originated, viewed itself as *fundamentally different* from cybernetics
   b. Two differences were critical
      i. Less important: computing was **digital**, not *continuous*
         α. We could talk about digitality in discussion, if anyone wants
         β. Digitality is important—but not for the reasons that most people think.
         χ. And for our purposes at this seminar, I don't think digitality is decisive (or even relevant)
      ii. More important: computing was **symbolic**
         α. I.e., whereas first wave cybernetics theorized its subject matter as *causal* (even if at a relatively high level of abstraction)
         β. Computation or computing theorized its subject matter as *symbolic*.
3. But here is the smoking gun: *the mechanical restriction!*
   a. Think about what the mechanical restriction does to symbols
      i. It eliminates (or at least disappears) everything that matters about semantics
         α. Namely: what we talked about in §1: reach, non-locality, its non-causal nature.
      ii. It eliminates (or at least disappears) all the humility and deference

iii. It treats symbolic systems merely as *mechanical arrangements*
iv. Worse, it reinterprets meaning, interpretation, semantics, etc., in terms of mere mechanical arrangement and behaviour

b. And so, in spite of their conceptual differences, the stage was set for the difference between cybernetics and computing to begin to disappear.
c. Or at least—and this is going to matter—the stage was set for people to *think* that the difference between cybernetics and computing was disappearing

D. Second-wave cybernetics
1. We now have all the ingredients in place the development of **second-wave cybernetics**
2. Let me "cut to the chase," "cut to the bottom line"
3. 2nd-wave cybernetics is *not an ideology*
   a. It is a **meta-ideology**
   b. It is an ideology that structures the nature of ontologies and ideologies
4. Consists of two steps:
   a. First: for any given ontology, formulate its categories as *formal* and *determinate* (absolute, etc.)
   b. Second; *apply the mechanical restriction*
5. It is totalizing
   a. So there is no property of category, such that we can say, to someone who accepts it, that "people are this way, and cybernetic systems are not"
      i. For example: people are *alive*, and cybernetic systems are not

ii. Or: people have a *life world*, and cybernetic systems do not
iii. Or: cybernetic systems *only exchange information*, but people do more things—like *develop trust*, or *send threats*, etc.

b. For any such category, (2nd wave) cybernetics can redefine those notions.
c. To make things clear, I will use the prefix "cyber" for *the cybernetic version of a concept*—how it redefines it.
d. So I will talk about
   i. *Cyber-information*, or
   ii. *Cyber-communication*, or
   iii. *Cyber-trust,* or
   iv. *Cyber-life-world*
   v. *Cyber-friendship* (on Facebook)

6. Three examples, to show how this works
   a. Communication ⇒ cyber-communication
      i. Was: semantic or semiotic engagement (all kinds: invitations, questions, etc.)
      ii. Cyber-communication: just bumping and shoving, order
      iii. This is what Shannon theory is a theory of
   b. Information ⇒ cyber-information
      i. Genuine information: was semantic
         α. If I give you information that your child was just hit on the road, and has been taken to Limoges

β. You would not say "Oh, interesting; 7 bits of information; I can encode that in 1 byte"
χ. You would get in your car and drive like hell to the hospital

ii. That is: cyber-information is just *order and arrangement*
iii. And note, too, that it has been made into a measure property
α. All that current "information theorists" can answer is "how much?"
β. Not: what is that information *about?*

c. The unknown
i. The unknown is particularly interesting
ii. In some sense, all these systems deal with what is unknown
iii. The problem with the *cyber-unknown* is that it is **meta-known**
iv. One knows (on a cyber-model)
α. What the variables are, or
β. How many variables there will be,
χ. Or assumes that the unknown will come as a quantifiable amount (numeric, measure property)
v. The genuine unknown, that to which we really want to defer, is the profoundly unknown
vi. More like *God*, or *magic*.

Section IV • Contemporary Computing _____ ~700 words; 6 minutes [34-40]

A. Just one more section.
B. I want to bring out a final, hugely important fact about computation
    1. Not as it is *understood*, in the cyber-theory
    2. I.e., not *cyber-computation*
    3. But what I call "computation in the wild" — computation *as it actually is.*
C. The point is this
    1. According to cyber-theory—according to second cybernetics—all computers do is to manipulate information, communicate information, manipulation cyber-symbols, etc.
    2. But think about what the "cyber" versions of these things are!
    3. Cyber-symbols are
        a. *Symbols without the long-distance meaning*
        b. *Symbols without reference to the world*
        c. *Symbols without deference, without accountability*
    4. Similarly information
        a. We've already seen that cyber-information isn't real information;
        b. it is just arrangements and configurations of bits
    5. This is why I claimed that the cyber-conception of computing is false
        a. We are right back where we started from
        b. What distinguishes genuine symbols, genuine communication, genuine human interaction, genuine reference, etc., is its long-distance reach, its deference or beholdenness to that which transcends its immediate physical arrangement.

c. The mechanical restriction, therefore, robs semantic and semiotic phenomena of that which makes them semantic & semiotic in the first place.

D. But do we, when we use the internet, erase all of the meaning, the reference, the semantics?
   1. No, we absolutely do not.
   2. We invest the internet, and computing, with all of the meaning and reference and deference etc. that the cyber-conception robs it of.
   3. That's why everyone *knows* that what you find on the internet isn't just *information*, in the real sense.
      a. It's also … garbage!
      b. And slander!
      c. And threats!
   4. This **discrepancy** between the cyber-restriction and the real thing is what allows the internet to *work*
      a. Think about texts and email
      b. If I meet someone in a bar, and later that night I send them a txt, and say "are you still up?"
      c. That's not *information* I conveyed; it was a *genuine invitation*—an invitation between two full-blooded real people.

E. Discussion
   1. What this shows is that in some sense we may be in the grip of second cybernetics
   2. But in a way, we are also *not* in its grip

3. In fact one could say something stronger
    a. The success of the internet—of computing, of machine learning, etc., depends on something like a 'pun'
        i. It is theorized in terms of the cyber-versions of its various constituent notions
            α. Information and communication, in the first instance
            β. But increasingly more substantial human notions; *friendship*, *democracy*, *sociality*, etc.
        ii. It is those cyber-versions that are *quantified*, that are *studied statistically,* etc.
        iii. It is social organization and politics in terms of those cyber-versions that disquiets us all
    b. But to *function*, the net depends on people *thinking they are the real thing, the genuine versions*—or at least close enough to the genuine versions that they can be used as a substitute
    c. The NSA can track your communication, they say
        i. Really it can only track your cyber-communication
        ii. But to the extent that cyber-communication and real communication overlap, then they can track something like your real communication.
    d. And it is in their interest for you to think that cyber-communication *is* real communication,

F. This opens up a way of thinking that we might be able to exploit
    1. First, resist the identification of genuine human categories with their cyber-restrictions

2. Second, always ask *what the cybernetic system defers to, to what it is held accountable*
3. Third, build computer systems (i.e., exploit the power of speed-of-light digital configuration and reconfiguration, which is huge) that are not organized in terms of such cyber-categories
4. Fourth, keep in mind the genuine unknown—the humility and deference and recognition
   a. Not only that the symbols, information, communication, etc., must be answerable to that which transcends it
   b. But also that what transcends it is not meta-known, either.
   c. That humility and deference are the origins of genuine semantics, communication, and even information.