Angell, Ian O., and Dionysios S. Demetis. "Epilogue: Science's First Mistake." *Science's First Mistake: Delusions in Pursuit of Theory*. : Bloomsbury Academic, 2010. 217–220. *Bloomsbury Collections*. Web. 26 Apr. 2023. <<http://dx.doi.org/10.5040/9781472544957.0006>>.

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EPILOGUE

Science's First Mistake

We have finally reached the end of our journey, and so it is appropriate that we now discuss and clarify the book's rather cryptic title. That title is a play on Nietzsche's notorious words: 'Woman was God's second mistake' (Nietzsche et al., 2003); a quotation guaranteed to raise the hackles of any reader who is politically correct or religiously minded. Although we should explain these words were not Nietzsche as a male chauvinist, rather they were his idea of a joke.

Woman was not the target of his rhetoric. No; he was referring obliquely to God's first mistake, or rather humanity's, and as we would have it science's also: namely that *homo sapiens*, godlike, via its intelligence, had been placed in control of the planet: the Sixth Day as described in Genesis 1, verses 27–28:

27: So God created man in his own image, in the image of God created he him; male and female created he them.

28: And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.

How paradoxical that, in its attempts to replace God, science should take up the baton of domination from Genesis? This too was recognized by Nietzsche in his most infamous quotation 'God is Dead!' (Nietzsche, 2006), although most people don't realize these words are completed with '... And we have killed Him'. Here Nietzsche is pointing out the conceit of modernism and the rise of secular societies, all grounded in the arrogance of scientific certainty. With devastating simplicity he accentuated the vanity of believing that we could stand alone; that with scientific method, our intelligence would show us the truth about things: that we could be indisputable masters of all we survey.

For science does not give us dominion. Total control of events through the application of scientific method is a myth. Because of fundamental absurdities described in this book, we have seen that there can be no permanent solutions to the ineffable human condition, and that there are

no truths that will cover every eventuality. We are all at the mercy of the Fates, and while science may masquerade as a force for control, its tunnel vision conceals an underlying torrent of basic problems. Indeed, the hubris that comes with an unquestioned belief in the scientific method, particularly when it is targeted at social/political/commercial concerns, and especially when it involves technology, is an accident waiting to happen.

It's time to nail the big lie of the last three centuries, and stop this obsession with tidy methodical solutions. The message of this book is that understanding through scientific theory, and applied via its methods, does not place humanity in control of its destiny, and it can in no way expose the real nature of reality. Indeed there is no such thing as 'understanding', only mere description through observation. Observation is itself a delusion steeped in paradox that emerges from the unavoidable distinction included in each observation: the distinction between observable and unobservable.

For human observation does not allow us access to a real world: observation is deceived by the linearity inferred in causality. The authors have asserted in this book that we humans do not observe cause and effect in the world; instead a belief in causality is a necessary prerequisite of observation and cognition. Indeed, they claim that without the delusion of causality there would be no observation; observation and cognition are only possible because linearity is erroneously imposed on what is an always complex, non-linear world.

Linearity: just one thing after another. An assumption of sequential and consequential developments that are free of interference and surprise. Linearity: bring A and B together, and the outcome is predictably C. Here A, B and C are the categorical things that we observe and focus on in the world. However, that world is non-linear and drowning in a bubbling chaotic alphabet soup of causes that have created effects previously, only for them to interact and become new causes, and on and on; any one of which may interfere with specific instances of A or B before they interact, or mess with and change C, even before C's existence has become apparent to us; and all is swamped in the delusion and paradox of observation.

For we must recognize that each particular A, B and C is an instance taken from an expanding set of categories that each of us has been developing self-referentially since birth, and that form the cognitive building blocks of individual so-called understanding. However, these categories are abstractions, ideals, parts of a map; they are not the inaccessible things-in-the-world that they are supposed to represent. Rather they are merely pale

intellectual shadows created inside our heads; overconfidence in what these chimera whisper to us is absurd.

During our lifetimes, each of us continuously categorizes the things-in-the-world we observe; and we bunch each instance together with other similar things as if they are the same, and each group of similar entities is identified with a particular abstraction. However, in categorizing, that cognitive ideal must miss the unique totality of each particular instance of the thing-in-the-world to which it corresponds. Indeed, in order to observe, it is essential that we don't include every miniscule facet of all the components that make up the world. Without the filtering property of linearity we would be overwhelmed by the sheer enormity of the detail and complexity. However, this filtering gives rise to paradoxes that come with this categorical basis of observation, and which have the potential of interfering with that categorizing. Hence the imagined linear predictability of the behaviour of things-in-the-world, and the accompanying wish for control, will always prove illusory.

And yet observation is our cognitive laboratory, a place of enforced linearity, where we experiment as we make our way in the world, and that is only possible because we utilize the fiction of linearity that is categorization. It's not only in the Harry Potter books that we humans can induce a change in the world by chanting incantations and waving a magic wand. We may not realize it, but this is what we humans do every day when we self-referentially use our categorizations/descriptions/observations of objects in the real world to create ideas, so that when ritually applied, the world bends to our will ... usually. What is this but casting a magic spell?

However, we remain apprentices, never to be the sorcerer. The paradoxes that stem from delusion, along with unexpected events, will ultimately conspire to upset our desired imposition of control mechanisms. Nevertheless we can create transitory stabilities that enable us to make our way in the world. Humanity's trick is to introduce social, cultural, intellectual, as well as physical artefacts into the world that form a pragmatic sink for much but not all of the surrounding noise, and which limit the disrupting influence of both detail and non-linearity. Unfortunately, these filters can never hold the complex world of surprises at bay indefinitely. The linear incantation that is understanding will never totally control the non-linear world, which cannot be truly seen. That 'world is observable because it is unobservable' (Luhmann, 2002b).

So there we have it. The authors' answer to the question what is science? From their own personally 'refined ignorance', they see science as an

umbrella-term covering an incoherent and un-unifiable set of socially constructed, self-referential linear abstractions for describing what is our non-linear world. *Science's First Mistake* is to forget that its abstractions do not deal with reality, rather its models and theories are unnatural and artificial, and indeed quite absurd when viewed from outside the tunnel vision of science's self-referential certainty. Scientific descriptions, enmeshed as they are in the structural coupling of cognition and observation, may deliver clarity of purpose along the tunnel's axis, but leave the periphery littered in paradox and absurdity.

That having been said, some of these abstractions and their consequent technologies have been enormously successful in humanity's drive to control its environment. However, science is and will forever remain unnatural; an artificial construct produced by self-stochastic systems, we human beings. If we do not wake up to the hubris in the products of our intellect, then nemesis will most certainly follow.

Science's First Mistake is a failure to recognize that there is no permanent dominion over a world that can only ever be observed by ignoring the enigma of delusion and paradox implicit in observation itself. Even so, this book is not a council of despair. Granted our world is unknowable, but it is variously interpretable thanks to the structural coupling of human cognition and observation. For ours is a magical world where within the realm of imagination, within the realm of chance, within the realm of necessity, the improbable can and does happen. With this bounty we are capable of creating structures, both tangible and intangible, many beyond the limitations of science, that furnish us with information that is a tenuous handle on the surrounding uncertainty, so that we may survive and prosper.

That having been said, the world that we perceive can never be the world as it is.

All that I know is that I know nothing.

ΕΝ ΟΙΔΑ ΟΤΙ ΟΥΔΕΝ ΟΙΔΑ

Socrates – Σωκράτης