
DISCRIMEN, YIN, YANG, BOTH?

LOUW FEENSTRA
JOHANNES BORGSTEIN

Experts are the upshot of what nowadays is called 'gene-environmental interplay'¹, a term that stresses the complicated interaction of nature and nurture. It leads to the corollary that expertise is the result of some person's genetical make-up and his cafeteria effect, metaphor for the number, richness, variability, say assortment of all the choices he has access to in his *Umwelt*². *Ludus Vitalis*' question, as we choose to summarize it, "Is cooperation of some varieties of the *Geisteswissenschaften* and *Naturwissenschaften* (both broader than humanities and sciences respectively), advantageous or detrimental for one or the other or for both?"

The *Ludus* division between cooperation or separation (of disciplines or habits of thought) brings into mind, Goethe's *Zwei Seelen*³, Fichte's Thesis, Antithesis, Synthesis⁴, CP Snow's Two Cultures⁵, and even the first few lines of Lao Tzu's *Te-Tao- Ching*'s 42nd chapter⁶:

The way gave birth to the One;
The one gave birth to the Two;
The Two gave birth to the Three;
And the Three gave birth to the ten thousand things.

Basically, our answer to *Ludus*' question is that anyone, specialist, professional or expert cannot possibly avoid some *personal selection* from the multiplicity of his 'cafeteria'. Even if he doesn't make a choice, he does, not making a choice is also a choice. In this context, such a choice is between one or more (!) (sub)specializations or generalization. We find that any individual thinker, life scientist or philosopher should behave according to the anarchistic advice: '*A man born free has a path of his own*' (Herbert Read), or the similar Zen statement: '*Seek not to follow in the footsteps of the Ancient Ones. Seek what they sought*' (Daisetz Teitaro Suzuki⁷). That is, he should listen to his own gut feelings. All afore mentioned dualities, including the *Ludus* one, point to some '*discrimen*', Latin for division or dividing line where two structures come together, a word related to the

Department of Neuroscience, Erasmus University Medical Center, Rotterdam, The Netherlands. / L.Feenstra@erasmusmc.nl
Hospital Tergooi Blaricum, Netherlands. / borgstein@me.com

now politically denounced behavior of discrimination. However, science and philosophy, each and every living organism, on the contrary begin by observing similarities and distinctions. The basic ones are safe or dangerous, friend or foe, edible not edible, and so forth. This implies, indeed stimulates, discrimination of some features from all the other features in anyone's *Umwelt*. The sense organs of each organism also limit the possible features that can be taken into consideration, and most likely indicate those that are important for the organism. Any discrimination in real life implies some private decision, albeit not always consciously so. Any *discrimen*, therefore, may be taken as an absolute one, i.e., 'Thou shalt not trespass', to a permeable one, to be ignored completely or even fictitious. Again a private decision. A racist discrimination, however, usually boils down to some real, say color discrimination black or white, coupled with some emotionally attached private decision, i.e., a personal choice that might but is not *logically* attached to it.

Back to *Ludus'* question. It would be an endless task to present all examples of scholars and scientists who combined more competencies in person or fruitfully sought help or support from other specializations; there are just too many. It is similar hopeless to even count the number of experts on creativity and innovation who did. They literally swarm with models and advice to combine expertise and a variety of thinking habits.

Let us just give a few shining examples and models for cooperation between different specialties. Erwin Schrödinger's *What is life?* (1944), Nobel laureate in physics 1933, and Richard P. Feynman's, Nobel laureate physics 1965, warning statement: "in these days of specialization there are *too few people* [our italics] who have such a deep understanding of two departments of our knowledge that they do not make fools of themselves in one or the other ⁸." Feynman, therefore, advocates combining more disciplines with the caveat of not being a specialist (or expert) in all of them.

A plea for cooperation of different tribes was presented during a symposium '*Three cultures*' in Rotterdam, 1989 ⁹. Interdisciplinarity and multidisciplinarity do not appear out of the blue.

Let us take the example of neuroscience. This is a fascinating playground where one meets cooperating and interacting biologists, medics, chemists, physicists, AI experts, computer freaks, psychologists and philosophers. The field really buzzes with activity and almost anyone feels qualified to an opinion. It is a most stimulating ... yes, what? A mix of many disciplines, faculties and collaborations. A similar and interesting recent alternative to stimulate one's pliancy comes from ethnography. It is called *merography* (from *mero* = part, *graphy* = writing) in which one makes sense of things by describing them as a part of something else. It is advocated as '*the ambition of researchers to combine multiple contexts, hoping to garner ever more knowledge*' (italics in original)¹⁰.

Other catchwords in this context are ‘serendipity’ the unsought finding (also described as: looking for a needle in a haystack and finding the farmer’s daughter ^{11,12}), and Edward de Bono’s ‘lateral thinking.’ The latter is thought to be in contrast to ‘vertical thinking’ as developed in logical, mathematical or natural thinking ¹³.

To summarize, it is our firm conviction that many examples, people and systems all point in the same direction. Many scientists and scholars trained in either *Naturwissenschaften* or *Geisteswissenschaften* (sciences and humanities) may well benefit by being familiar or even active in more than one field. This is true intra-personally, inter-personally, and intra-organizationally. Rather than stick to one way of thinking, feeling, acting, behavior and discipline or faculty, differentiation and variation leads to more potential, more creativity, more skills, and a richer life, similar to learning a new language, one’s cosmology is expanded.

Our conviction has the same flavor as our answer to an earlier question of *Ludus Vitalis*. We wrote then that ‘the use of languages and discourses different from our own has always some effect ¹⁴’. We said that each role of an academic medical specialist has its own jargon, one for patient care, one for clinical research, one for teaching. Moreover, in our medical specialty of Oto-rhino-laryngology, one should be able to communicate—in both directions that is—with speech therapists, audiologists, psychologists, medical colleagues of many other specialties.

To stick to one single way of thinking and not understanding other disciplines leads inevitably to misunderstanding, sometimes even to disaster. It is an age-old wisdom: exclusive *Yin* and exclusive *Yang* are both ill advised. A touch of the other inside and both bonded together makes the circle complete. As the Germans have it ‘*Jede Konsequenz führt zum Teufel*,’ and as Pascal already advocated more than one approach in life, ‘*le coeur a ses raisons que la raison ne connaît pas*’.

NOTES

- 1 Hambrick D.Z., Campitelli G., Macnamara B.N. *The Science of Expertise. Behavioral, Neural, and Genetic Approaches to Complex Skill*. New York: Routledge, 2018.
- 2 *Umwelt* = the personal environment of any organism such as it perceives itself based on its personal mix of sensory systems. To discern from *niche*, the environment such as perceived by another, for instance a researcher. Von Uexküll J. *Umwelt und Innenwelt der Tiere*. Berlin: Verlag Julius Springer, 1909 (German).
- 3 Goethe W. Faust 1, *Vor dem Tor*, Vers 1112 -7 (German).
- 4 Fichte J.G. *Sämtliche Werke*, Berlin, 1845: Bd.1:83-ff (German)
- 5 Snow C.P. *The Rede lecture*. Cambridge University Press, 1959.
- 6 Henricks R.G. Lao-Tzu. *Te-Tao Ching*. The Random House Publ., 1989.
- 7 *Verwantschap tussen anarchisme en zen*. In: Feenstra L. Uit het academisch toerenooveld. Een afscheidscollage. Leuven: Acco, 2005: 95-101 (Dutch).
- 8 Feynman M., Feynman C., Richard P. Feynman, *The Meaning of it All*. Penguin books, 1998.
- 9 *Three cultures, Fifteen Lectures on the Confrontation of Academic Cultures*. Amsterdam: Amsterdam University Press, 1989.
- 10 Schlecker M., Hirsch E. "Incomplete knowledge: ethnography and the crisis of context in studies of media, science and technology". In: *History of the Human Sciences* Vol. 13 No.1, 2001:69-87.
- 11 van Andel P. "Anatomy of the unsought finding. Serendipity: Origin, history, domains, traditions, appearances, patterns and programmability." *British Journal for the Philosophy of Science*. 1994; 45: 631-48.
- 12 Silver S.R. "The prehistory of serendipity, from Bacon to Warpole and Meron." *Isis* 2015; 106: 3 .
- 13 de Bono E. *The Mechanism of Mind*. 1969.
- 14 Feenstra L., Borgstein J., "Babel." *Ludus Vitalis*. 2011; 19 num. 36: 275-9 .