

## Tolerance of the Unknown: Negative Capability, the Problem of Demarcation, and the Truzzi-Gardner Dialogue<sup>1</sup>

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**Abstract.** The poet John Keats coined the term *negative capability* to describe the kind of open mindedness that is capable of tolerating the unknown or only half-known. He also described a similar idea regarding our ability to disregard our own knowledge and allow the mind to become a thoroughfare for all thoughts. This capability may be considered from the perspective of the psychology of science as an epistemic virtue, which plays an important role within the scientific study of anomalous phenomena or what might be more succinctly termed *anomalistics*. Have scientists developed sufficient negative capability to deal adequately with the claims of the paranormal? As an illustration, we analyze the role of negative capability within the recently published correspondence between sociologist Marcello Truzzi and mathematician and science journalist Martin Gardner. Gardner defended a kind of hardline skepticism favoring prejudice and pejorative labels whereas Truzzi promoted a softer skepticism with more symmetry and a courteous effort toward those who strive diligently to follow the rules of science. Both forms of skepticism have different epistemological grounds and this inner-demarcation is analyzed through the perspective of the psychology of science and its assessment of individual's epistemic vices and virtues. This inner-demarcation has an impact on the wider issue of demarcation between science and pseudoscience. We conclude that negative capability should be a salient factor in future research and may be encouraged and developed by the educational opportunities provided by anomalistics and its characteristic skeptic-proponent dialogues.

**Keywords:** Negative capability, skepticism, psychology of science, Marcello Truzzi, Martin Gardner

In an 1817 letter to his brothers (Keats, 1899, p. 277), the poet John Keats coined a term that has retained its currency to our very day: "I mean *Negative Capability*, that is, when a man is capable of being in uncertainties, mysteries, doubts, without any irritable reaching after fact and reason." In a later letter to his brother George (Keats, 1819), he harped upon a similar theme: "The only means of strengthening one's intellect is to make up one's mind about nothing - to let the mind be a thoroughfare for all thoughts. Not a select party."

After co-editing *Parapsychology: A Handbook for the 21<sup>st</sup> Century*, Etzel Cardeña (2015) published an epilogue entitled "On negative capability and parapsychology," pointing out that even though we

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have learned some things since the publication of the similar 1977 *Handbook*, we have yet to recognize just how little we know about the phenomena in question (Cardeña, 2015, p. 400):

The various analyses... documented in this tome show in my mind a too remarkable regularity to be explained away by wholly or partly dishonest researchers ... thus I conclude that we do have evidence for something like what we call psi. Nonetheless, the small effect sizes and lack of ability to design an experiment that would almost certainly produce evidence also signifies that we are very far from understanding psi, whether of the conscious or unconscious variety.

Cardeña (2015, p. 402) provides a personal example of the epistemic effort that prohibited him from concluding the *Handbook* more enthusiastically, using a metaphor developed by Gleiser (2014): “One of those lessons for every reader should be, I believe, that our ‘island of knowledge’ about psi has increased size while simultaneously revealing just how much we do not know.” Negative capability is the mark of a relation to knowledge of greater importance than merely finding itself at the conclusion of an inventory of research, and it has nothing to do with pessimism. On the contrary, it could be an indispensable epistemological tool for scientific research in parapsychology and anomalistics.

In this article, we will first describe some key elements of the psychology of negative capability, and then integrate it within the psychology of science as a possible solution to this particular demarcation problem. We illustrate this with an analysis of two scientific attitudes regarding paranormal claims: those of sociologist of science Marcello Truzzi and mathematician and science journalist Martin Gardner, based on their recently published correspondence (Richards, 2017).

### **The Psychology of Negative Capability**

Let us begin by examining the original intent of John Keats when he coined the term *negative capability* in his letter of 22<sup>nd</sup> December 1817 to his brothers George and Thomas. Keats was a romantic poet who tragically succumbed to tuberculosis at the age of 25. Longing to find beauty in what was often an ugly and terrible world, he was a great admirer of Shakespeare and emulated the genius of the Bard’s creativity through his concept of negative capability. It characterizes the capacity of the greatest writers to pursue a vision of artistic beauty even when it leads them into intellectual confusion and uncertainty, in contradistinction to the preference for philosophical certainty over artistic beauty.

Beyond aesthetic analysis, the state described by Keats can be prosaically compared to a definition of psychological conflict: “An emotional state characterized by indecision, restlessness, uncertainty and tension, resulting from incompatible inner needs or drives of comparable intensity” (Oram & Heilizer, 1965). Keats’ description of the poetical character portrays a soul that prefers clinging to a higher vision despite conflict rather than giving way to the crushing spiritual death demanded by the dull materialism of an industrial age with its illusion of authoritarian certainty. The ensuing conflict between seeming dream and so-called reality is characteristic of a *liminal* state (Hansen, 2001). By not imposing oneself upon the doubts and uncertainties that make up a conflict, Keats would rather have us transcend the narrow confines of intellect and open ourselves to the intuitive realm of imagination and creativity. This involves a kind of preternatural empathy, a chameleon-like state of being capable of eliminating one’s

own personality in order to imaginatively enter into another person's perspective, especially that of the beloved or Muse. It is no surprise that negative capability has attracted the interest of psychotherapists.

The twentieth-century British psychoanalyst Wilfred Bion (1974, p. 209-210) referred to Keats's term to elaborate an attitude of openness of mind, which he considered of central importance not only to the psychoanalytic session but also to life itself. For Bion, negative capability was the ability to tolerate the pain and confusion of unknowing, rather than imposing ready-made or omnipotent certainties upon an ambiguous situation or emotional challenge. It is not a way of changing the knowledge of the patient or the analyst, but of changing their *relation to knowledge*. He extracted from Freud's correspondence the idea of making himself *artificially blind* so as to focus all the light upon a single dark point, in the context of the analytic cure. This method involves a suspension of memory, desire, understanding, and sensorial perception (Bion, 1974, p. 86-87), something stronger than the classical phenomenological "epoché" or "bracketing" (Husserl, 1977). It is only at the cost of a certain degree of effort that the analyst's listening skills gain access to the full wealth of knowledge emerging from the therapeutic situation. This process is in part a continuity of Freud's "free-floating attention" or "evenly-suspended attention" (*gleichschwebende Aufmerksamkeit*).

Negative capability is not limited to the register of analytical technique, it is in full accord with the epistemological ambitions of psychoanalysis. It organizes a certain relation with knowledge that, during a therapy session as in any field of research, turns towards *the unknown*, this "obscure point" which must be illuminated by "blindness" (Bion, 1974, p. 124). Other psychoanalysts including André Green (1993) and Jean Guillaumin (2003) have tried to generalize this psychoanalytic epistemology to all sciences. This model is articulated around a *negative operator* or *strange organizer* that assures psychoanalytic thought an availability for the discovery of the *unthought*. The *negative work* would be like the relentlessness of the psychoanalysts who struggles to maintain, within practice and theory, an epistemic position animated by incessant questioning of their own neutrality and in relation to their own certainties (Guillaumin, 2003, pp. 92-93). The part of the unknown on which psychoanalysts expects to stumble becomes the operator of their knowledge, always revisable. The "non-knowledge" is qualified, in turn, as "strange attractor," "indispensable negative support," and "central operator" of human knowledge (Guillaumin, 2003, p. 116).

It is unfortunate that Guillaumin does not explore the limits of this capacity, which to him appears to be a permanent feature of the psychoanalyst, so much so that, in his model, it is in an ideal position to reach this infallible attitude only by practicing psychoanalysis. Therefore his generalization about negative capability appears excessive. Further, his specificity is questionable since scientists also defend themselves of their (ideal) opening to the unknown through their self-correcting dynamics. For instance, the neurobiologist Stuart Firestein recently recalled that "ignorance drives science" (Firestein, 2014): scientists are animated by the desire to confront their own ignorance, to the point where, at the extreme limit of what we know, we no longer actually know. Gregory Bateson (1972) already wrote about the importance of *nescience*, the negative side of knowledge. And Richard Feynman, a Nobel laureate for Physics, gave in 1969 a subversive definition of science as "the belief in the ignorance of experts." We can even go back to Socrates' disregard of his own knowledge as the first step in Western philosophy: "All I know is that I know nothing."<sup>2</sup>

<sup>2</sup> This quote is not a literal translation of Plato's *Apology of Socrates* but sums up his words. A closer translation may be: "I'm wiser [than this person] because I don't believe to know what I don't know", and "My wisdom is nothing compared to gods' one" (Vergely, 2014).

All in all, negative capability has been recognized as an essential element of the “scientific mind” (Bachelard, 1934, 1938). However, the extensive empirical work on laboratory work in the sociology of scientific knowledge shows that the reality of the field, with all the negotiations of scientific reality, is very far from confirming these ideal identifications (Galison, 1987; Gieryn, 1983, 1999; Latour & Woolgar, 1988). This is even more obvious in the field of unconventional sciences such as parapsychology where the science-pseudoscience demarcations are particularly prejudicial and applied to the detriment of the ideals mentioned earlier (Collins & Pinch, 1982; Hansen, 2001; Hess, 1993; Mauskopf, 1979; McClenon, 1993; Wallis, 1979).

We could bring negative capability closer to other psychological constructs such as *tolerance to ambiguity* (Barron, 1969; Renkel-Brunswik, 1949), *epistemic curiosity* (Mussell, 2010), *openness to experience* (McCrae & John, 1992), and *psychic lability* (Braud, 1981). According to some researchers (Lauriola et al., 2016), the attitude toward ambiguity can be best represented as a multidimensional construct involving affective, cognitive, and epistemic components. However, we do not currently have a reliable tool for assessing negative capability. This is a challenge for the most recent meta-science: the psychology of science.

### The Psychology of Science and the Demarcation Problem

The psychology of science is described as the new “meta-science” after philosophy, history, and the sociology of science. Feist and Gorman (2013, p. 3) defined it as “the study of scientific thought and behavior both narrowly and broadly defined.” The psychology of science examines both explicit and implicit forms of scientific thought and behavior, at all times in life. By symmetry, it is also the study of forms of thought and behavior that could be described as “non-scientific.” Its role is not to replace other meta-sciences by denying the sociological, political, historical, or philosophical influences already at work (for instance, the impact of politic and sociological context on the physics of gravity wave detection, Collins, 1998, 1999). It is rather a question of complementing them through the analysis of how both conscious and unconscious psychological factors (like cognitive, perceptive, or emotional biases) are also involved in scientific processes.

One possible area of interest is the identification of “epistemic vices and virtues” (Baehr, 2011; Fricker, 2009; Roberts & Wood, 2007), especially in the field of psychical research as carried out by Ian Kidd (2014) using the example of William Crookes<sup>3</sup> (see also Richet, 1923). Without falling into an idealistic or moralistic representation of scientific activities, we can look for the psychological skills and attitudes that are science-conducive or science-inhibitory. A non-exhaustive list of typical virtues would include: curiosity, impartiality, open-mindedness, epistemic justice, epistemic humility, and epistemic courage. Epistemic vices will be the inverses: conservatism, partiality, dogmatism, vainness, epistemic cowardice. These lists are, of course, subject to vigorous debate, and a central task of contemporary virtue epistemology is to identify and individuate the virtues and vices, and to provide a developed taxonomy of them (Baehr, 2011).

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<sup>3</sup> The physicist and chemist William Crookes (1832-1919) is an eminent figure in the history of psychical research, with investigations into spiritualistic and psychical phenomena during the early 1870s, before the creation of the societies for psychical research.

This psychological approach may provide an enriched solution to the old demarcation problem, understanding how to distinguish a scientific activity from a non-scientific one (Popper, 1959, 1963). This issue remained unsettled in the 1980s when philosophers of science failed to reach a consensus on the demarcation criteria. Laudan (1983) even showed that the demarcation problem was the pillar of ideological driven activity, since the great difficulty in the definition of generalizable demarcation criteria matched with the production of cleaving and militant speeches. But this issue rose again recently with renewed attempts to gather nonspecific demarcation criteria, like self-correcting empiricism and coherence within neighboring fields, as a pragmatic tool against pseudo-scientific practices (Pigliucci & Boudry, 2013; Rasplus, 2014). In these books, the treatment of parapsychology is totally biased and based upon deep ignorance of the field (Evrard, 2016), with claims like “parapsychologists do not publish in recognized scientific journals” (Goode, in Pigliucci & Boudry, 2013, p. 149) or suggesting fraud to explain Bem’s successful experiments on anomalous cognition (Gauvrit, in Rasplus, 2014, p. 160-162). The authors fail to produce concrete definitions of demarcation criteria beyond a “tacit knowledge” of what would be a pseudo-science. Using the contemporary virtue epistemology may help assess whether or not an individual has a genuine scientific attitude. This individual-level approach solves concrete problems rather than applying pejorative labels to poorly defined fields. And this approach can be applied symmetrically when a person makes an unorthodox claim (“telepathy exists”) or an orthodox one (“telepathy doesn’t exist”).

French psychologist Louis Favre (see Evrard, 2017) has pointed out how the heterodox field of parapsychology could serve as a testing ground of the scientific mind, by strongly eliciting the faculty of negative capability. Among the many good reasons to study psychical phenomena, he included the “excellent training” of the scientific mind (Favre, 1909, p. 7) through the confrontation with parapsychology. An exercise where, unfortunately, many fail:

He who acts as a scientific mind when he studies other objects, appears unscientific when addressing these difficult issues or this land where you have to walk alone, where the good guides and good examples that you can follow or imitate easily, are quite lacking (Favre, 1909, p. 11; our translation here and in other quotations of Favre).

Walter Franklin Prince (1930) made the same observations in his book *The Enchanted Boundary*. But rather than denouncing the excesses of rationalism, Favre made it an additional asset of parapsychology: “This study is the reagent of choice to detect and meter the scientific mind – our own and that of the individual with whom we speak or discuss” (Favre, 1909, p. 19). In this way the field excites the passions and makes many people partial and unscientific, thereby supporting his idea of a parapsychology as a “sensitive reagent.” Such a discipline has this “touchstone” function by which we may re-evaluate the claims of the supposed custodians of the scientific mind (Evrard, 2016). Who truly combines curiosity and critical spirit, benevolence and rigor? According to Favre, very few of his contemporaries can claim to do so:

When we do the test or the assay, we find that people with enough scientific mind or a sufficient “title” are rare. Many who have a head “full of knowledge” are far from having a rightly shaped mind”(Favre, 1909, p. 8, with a reference to a famous quote by Montaigne).



Favre deconstructed the figure of the scientist because he noted repeatedly that people give their opinion on parapsychology without having studied it, something that is usually doomed from the outset in any other field. He gave several examples of conversations with scholars who opposed him with prejudices, “common sense,” authority arguments, peremptory affirmations, or a refusal to examine the evidence based on the conviction that the whole issue has already been adjudicated and resolved (Favre, 1909, p. 13-18). He observed that many established scientists failed to rigorously apply science in these areas because of personal, economic, or social prejudices. What is happening in this zone of conflict may also reflect the psychological and social investment of *orthodoxy*, even when it is minimized through the rhetoric of openness, truthfulness, and disinterested and dispassionate scientific practice. His conclusion was unequivocal: “At the present time, the best area for scientific intolerance is that of psychic phenomena. The prouds who know everything can not tolerate that those who claim to know only what they have studied expressed a different opinion.” (Favre, 1909, p. 27). We will now discuss a more contemporary case involving two opposing attitudes in regard to negative capability and parapsychology.

### **Negative Capability in the Truzzi-Gardner Dialogue**

Marcello Truzzi (1935-2003) was a sociologist of science at Eastern Michigan University. One of the founding members of CSICOP (the Committee for the Scientific Investigation of Claims of the Paranormal), he soon parted ways with it since it moved away from the scholar and democratic attitude expected by Truzzi, and started the journal *The Zetetic Scholar*. As an alternative to CSICOP, he created the Center for Scientific Anomalies Research. Martin Gardner (1914-2010) was a science journalist, and a famous voice in the American skeptic movement. Their correspondence (Richards, 2017) is an excellent resource for identifying various degrees of tolerance to the unknown, because they differ in the way they receive unconventional claims. Dana Richards (2017, p. xi) summarizes the correspondence as follows: “They agree about fundamentals, but disagree about practical aspects. Martin felt that practical aspects of *doing* science favor ignoring and/or debunking pseudoscientists. Marcello felt that practical aspects of *adjudicating* science trump the exigencies of doing science.”

Rhetorical strategies used by advocates and critics of parapsychology have been studied by several researchers through discourse and text analyses (Coelho, 2005; Collins & Pinch, 1979; Zingrone, 2004). This approach taught us a lot about the constitutive role of discourse and communication in the ways that scientists debate contested or competing claims (Gilbert & Mulkay, 1984). Here we only comment on the endorsed epistemological positions, according to the vices and virtues that underlie them, and to the way in which they were embodied individually. We looked in detail at their differences in four steps: the scientific value of prejudging; the symmetrical approach of skepticism; the effort at courtesy initiated by Truzzi; and the oppositional strategies to provoke negative capability in others.

### **Prejudging as a Scientific Practice**

Gardner repeatedly identifies people he thinks are cranks, explains why they are cranks, and pleads with Truzzi to ignore them, if not disown them. He authoritatively designates some “irrespon-

sible visionaries” (Letter of January 18, 1978, in Richards, 2017, p. 80) who are dangerous for science, and distinguishes them from responsible scientists who hold extremely far from orthodox views. The so-called cranks and crackpots make highly implausible claims that Gardner has no objection in prejudging, before making further tests, because of their implausibility (Letter of March 5, 1978, in Richards, 2017, p. 114). In regard to this attitude, Truzzi quoted the study of psychologist Michael Mahoney (1976) who affirmed that “Scientists are not the paragons of rationality, objectivity, open-mindedness, and humility that many of them might like others to believe” (in Richards, 2017, p. 105-106) These transgressions of scientific norms or virtues are made possible by the frequent absence of sanctions and the negotiable aspects of many of these alleged norms.

Gardner pragmatically argues that: “It is absolutely necessary for the health of science that the more outrageous claims be ‘prejudged.’ Scientists simply do not have the time, inclination, or funds for investigating such claims.” (Richards, 2017, p. 114). He gives several examples of wasted time with tests of such claims. This pragmatic argument about how science *must* operate with respect to far-out claims was also defended by the philosopher Michael Polanyi (1969, p. 79):

Journals are bombarded with contributions offering fundamental discoveries in physics, chemistry, biology or medicine, most of which are nonsensical. Science cannot survive unless it can keep out such contributions and safeguard the basic soundness of its publications. This may lead to the neglect or even suppression of valuable contributions, but I think this risk is unavoidable. If it turned out that scientific discipline was keeping out a large number of important ideas, a relaxation of its severity might become necessary. But if this would lead to the intrusion of a great many bogus contributions, the situation could indeed become desperate. The pursuit of science can go on only so long as scientific judgments of plausibility are not too often badly mistaken.

Such an extreme defensive stance requires a very low negative capability. But this position of a strong orthodoxy for science, probably shared by many critics of unconventional theories, looks problematic to Truzzi, who developed a less asymmetrical position.

### **Skepticism as a Symmetrical Nonbelief**

In a letter to Douglas Hofstadter (31 January, 1983), Truzzi complained that “the term ‘skeptic’ has become unfortunately equated with disbelief rather than its proper meaning of *nonbelief*. That is, skepticism means the raising of doubts and the urging of inquiry” (Richards, 2017, p. xxvi). He was not a relativist, as he believed in science’s cumulative progress, but he sought to extend skepticism “to all claims including orthodox ones” (Richards, 2017, p. xxvii). Truzzi looked for a truly impartial skepticism, with no room for prejudging: “Bad science is (analytically) bad science whether or not it is practiced by socially respected ‘scientists’ or outsider mavericks.” (Letter of the January 12, 1978, in Richards, 2017, p. 76). He even claimed that his impartial skepticism is much stronger than those of the members of the CSICOP:

For I am skeptical about much of what passes for science in the orthodox science areas. It is

because I see psychiatrists as little different from witchdoctors, for example, that I am more sympathetic about the practices of the witchdoctor. I see neither the witchdoctor nor the psychiatrist as true scientists, but I see little reason to be more tolerant of the latter than the former. And since I recognize that we know little about the area that both are working in (in a strictly scientific sense), I am inclined to tolerate both rather than denounce both (since there is no ready replacement in society for their functions). Compared to some of the Committee members, I am very willing to emphasize how much we simply do not know yet (scientifically). And if a Gauquelin or a Hynek (or anyone intellectually honest and willing to play by the scientific rules of evidence for judgment by the historical court of science) wants to play in the search-game for the truth (which is simply trying to discover what the hell is going on 'out there' in the empirical world), I welcome them into the search party." (Letter of the 12 January 12, 1978, in Richards, 2017, p. 76)

This symmetrical skepticism goes with a more tolerant methodology, which prefers negative capability to debunking. This is not a demonstration of strength, to reassure oneself about the established knowledge, but a strategy that has learnt lessons from the history of science. According to Truzzi, the finding and re-conceptualizing of anomalies is "the life blood of science" (same letter, p. 77). He summoned the two types of errors that can arise when dealing with an ostensible new fact, not just the one implicit in Gardner's prejudging attitude: "You seem overly concerned with Type I (thinking there is an anomaly present when none actually exists) to the neglect of the Type II error (not noticing an important departure from the norm when one exists)" (*Idem*).

In a meeting in Washington, February 16, 1978, Truzzi presented a well-articulated view of his ideas on the reception of unconventional science. He built on what Thomas Kuhn (1977) has termed "the essential tension in science": "It is this problem of equilibrium that faces the scientific community in its collective reception of unconventional theories. The balance is a difficult one to put into operation, and the history of science is replete with examples of failure. In general however, institutionalized science has tended to be conservative and protective of its existing bodies of currently accepted facts and theories." (Truzzi, 1978, in Richards, 2017, p. 102)

Truzzi sees a complementarity between the traditionalist and iconoclast attitudes about Type I and Type II errors, and does not want to advocate one more than the other. He defined his role as the one of "*amicus curiae*, a friend of the court who recognizes the rules of evidence and the adjudication procedure and tries to help the process work more efficiently and fairly" (Letter of January 12, 1978, in Richards, 2017, p. 78). He therefore takes care to distinguish his personal prejudices from his scientifically established opinions, a task that requires an important negative capability.

In defense of a more conservative view, Gardner argues that treating unorthodox claims with a symmetrical fairness has a "legitimatizing" effect. According to him, "an AAAS symposium on astrology would have the effect of strengthening the public's astrological obsession... The general public can't follow careful arguments, and they are too ignorant of elementary statistics" (Letter of January 27, 1977, in Richards, 2017, p. 67). This is a recurrent rhetorical argument with some skeptics: the public opinion is "ill-founded" and only some elites know what is good for the masses (Bensaude-Vincent, 2000).



In the same vein, Gardner criticized Truzzi's use of the word "anomaly" for some unconventional claims when he found it better to view the "occult wave" as a "social aberration" (Letter to Ray Hyman, January 24, 1978, in Richards, 2017, p. 86). Gardner's distinction between plausible and implausible anomalies is rejected by Truzzi, as another example of a prejudgmental attitude against new ideas (Letter of 24 January 24, 1978, in Richards, 2017, p. 80-81). On the occasion of this letter, Truzzi even questions the maxim he helped to make famous ("extraordinary claims require extraordinary proof") because "extraordinary" is far too relativistic to establish a clear adjudication. He would soon develop another maxim.

### A Courtesy Effort

Truzzi was very inspired by Charles Sanders Pierce, who made some observations on research into the paranormal. He adopted his "first rule of science": *do nothing that will block inquiry*. To follow this rule involves taking a step back to fight against what comes along to prevent the material from emerging. This recalls the use of negative capability in psychotherapy to open the therapeutic situation to all possible material. Truzzi saw the difference between CSICOP and his Center for Scientific Anomalies Research (CSAR) in how they follow this golden rule: "I view much of CSICOP activity as obstructing inquiry because it has prejudged many areas of inquiry by labeling them pseudoscientific prior to serious inquiry" (Letter to Douglas Hofstadter, January 31, 1983, in Richards, 2017, p. xxvi).

There are two ways to "do nothing": one is a passive tolerance. Truzzi wrote: "I am willing to tolerate ignoring those we think are 'too far out' in their claims; but I am not willing to attack their ideas in any way that will block inquiry into those ideas by any that might otherwise want to pursue such inquiry" (Letter of January 24, 1978, in Richards, 2017, p. 82-83). Truzzi sometimes clearly reproached Gardner that the vocabulary and tone he uses against paranormal claims are not justified, because they disqualify the empirical study that they should instead encourage.

The other way is more active: with a *courtesy effort*. The goal of his journal, *The Zetetic Scholar*, was "to bring together protoscientific proponents (those willing to abide by the rules and evidence of science) and responsible critics (those willing to similarly accept normal scientific rules of discourse and not reverting to ad hominem and similar tactics) into rational dialogue" (Letter to Douglas Hofstadter, January 31, 1983, in Richards, 2017, p. xxvi). Truzzi insisted on his choice of words: he preferred "dialogue" to "debate" "for the purpose is not to 'win' or 'defeat' an opponent. The purpose is to advance science" (*Idem*).

In the same vein, he introduced a new taxonomy instead of the pejorative terms used by Gardner. He labeled protoscientists "those willing to play by the rules of science in having their claims accepted or rejected but who have not yet been accepted as scientists by the general science community" (Letter of February 5, 1978, in Richards, 2017, p. 93). He gave four characteristics for this label, distinguishing someone who:

- a. "Seems to have honest intentions.
- b. Wants to see his theories seriously discussed by the scientific community, in terms of its ground rules.

- c. Is willing to respond to criticisms made.
- d. Is unlikely to cause anyone physical harm while such consideration is going on.” (Letter of January 24, 1978, in Richards, 2017, p. 80-81).

Therefore he promoted the epistemic virtues of the psychologist Michel Gauquelin, who made *astrobiological* claims about strange correlations between date of birth and later life activities (Letter of February 19, 1978, in Richards, 2017, p. 98-99). Truzzi especially praises Gauquelin’s negative capability: his attitude about his work is not excessively defensive, he welcomes debate and replication studies, he attempts to control for various factors, etc. But Truzzi failed to convince Gardner to stop labeling him a crackpot.

Truzzi repeatedly says that anyone who acts like a scientist (uses data, obey the rules, etc.) must not be dismissed. He affirms that he is capable of such efforts at courtesy because he has a strong confidence in science as a self-correcting system, whereas some of his colleagues lack such a level of confidence (Richards, 2017, p. xxvii). This involves both a personal negative capability and a global one, with the perception of science not as the support of established knowledge but as a method of learning.

### **To Provoke Negative Capability**

Truzzi felt everyone should be given a fair hearing, whereas Gardner felt that this, taken to its logical extremes, is impractical and foolish. One of Gardner’s recurrent arguments for rejecting courteous efforts is the lack of negative capability from those who claim paranormal events: “The chance that a dialog with parapsychologists such as Puthoff and Panati, and characters like Hynek, will alter their beliefs I regard as too minimal to be considered.” (Letter of September 25, 1976, in Richards, 2017, p. 56) He feared that such dialogue would only be used for their legitimization strategies: “attempts to establish ‘dialog’ with the genuine crank are foredoomed to failure, and a waste of time unless one does it for laughs.” (Letter to Ray Hyman, January 24, 1978, in: Richards, 2017, p. 86). Thus, while he had no direct contact with Gauquelin, he predicted that the latter would not change his mind if presented with negative evidence (Letter of May 12, 1978, in Richards, 2017, p. 138). This general appreciation leads him to think it is not worth the effort.

Truzzi replied that he was not primarily concerned about the claimers of paranormal phenomena, but about those who think themselves neutral about such claims. “I hope to convince some of the people who already hold contrary views, but I am especially concerned about those who have not made up their minds” (Letter of January 20, 1977, in Richards, 2017, p. 65). He believed that his pedagogical and courteous strategy would have better effects (in terms of provoking negative capability) than debunking.

CSICOP’s favorite strategy, based on ridicule and debunking, was regarded by Truzzi as “ultimately damaging” (*Idem*). This mockery not only inhibits serious work on anomalies but also fails to convince the public who is always so fond of the occult (Hansen, 1992; Pinch & Collins, 1984). With some nuances, Truzzi explained that he is not against debunking, *ad hominen* arguments, or humor. But he found it imperative that such arguments should not be presented as scientific actions “even if they are meant to, in some sense, defend science” (Letter of January 24, 1978, in Richards, 2017, p. 81). The confrontation

with claims of anomalistics should be part of the normal scientific process. Therefore, once confronted, the arguments against them should be rigorous and without character attacks. This is still the same symmetrical strategy that involves resisting the emotions provoked by the confrontation with the unknown.

## Conclusion

Parapsychologist Charles Honorton (1976) asked if “science has developed the competence to confront claims of the paranormal.” We should perhaps rephrase this question by asking how we might make scientists develop sufficient negative capability to confront the unknown. Both sociology and psychology of science shows us that there is a big gap between the ideal norms of science and the conservative psychological tendencies of human beings (Favre, 1909; Mahoney, 1976). An individual approach to the scientific mind may help us understand the factors conducive or inhibitory for research in anomalistics. Empirical research is required to provide an assessment tool for negative capability, and we should also look at how we might implement it within the practice of anomalistic psychology, parapsychology, or even science in general.

Despite some exceptions (Méheust, 1999; Pinch & Collins, 1982), human sciences have failed to explore the demarcation between various forms of skepticism, while there would be as much to learn about the scientific mind as in the analysis of the differences between genuine, proto- and pseudoscientists. The correspondence between Truzzi and Gardner shows that there is no consensus between skeptics on the scientific reception of unconventional claims. Gardner favored overt prejudging as an efficient tool, coupled with pejorative labels, ridicule, and debunking strategies, because he considered such claimants were bad for science and not able to change their minds. Truzzi placed methodological skepticism towards anomalies at the very core of the scientific process, and followed Peirce’s obligation to do nothing that might block inquiry. Thus he developed a symmetrical approach of orthodox and unorthodox claims, considering the essential tension between traditional and iconoclastic attitudes. He actively made courteous efforts to develop a responsible dialogue with unconventional researchers who attempt to follow the rules of science, whom he labeled “proto-scientists.” And he believed that this strategy, while avoiding the reinforcement of division, would contribute to the progress of science.

Another skeptic, the Dutch journalist Piet Hein Hoebens, mostly agreed with Truzzi’s approach. He brought a useful but mostly unexplored taxonomy of four sub-families of skeptics depending on their relation to knowledge and their privileged practices (Hoebens, 1980, in Hövelmann & Michels, 2017): the *extremists* who use demagoguery instead of discussion, and insinuations instead of arguments; the *hard-liners* (including Randi); the *almost hardliners* (including Gardner); and the *soft-liners*. This last group, in which we could locate Truzzi, shows how skepticism could be compatible with a fair tolerance for the unknown. This is how Hoebens describe this group:

In this group we find those skeptics who do not believe that psi really exists, but who have a weakness for parapsychology nonetheless. Typical soft-liners like to meet with parapsychologists. They happily publish in parapsychological journals and, despite their unbelief, they permanently refuse to commit themselves. They are the critical allies of the parapsychologist. The soft-liners catch the eye because of their philosophical approach to the problem.

Frequently, they consider the debate on parapsychology as an illustration of the much more general debate on the nature of science. Sometimes they distance themselves openly from their nominal confederates who are going much too fast. If they ever ruthlessly attack a specific parapsychologist, they always explain, politely, that their critique is not meant to apply to parapsychology as a whole. (Hoebens, 1980, in Hövelmann & Michels, 2017, p. 86)

Even if he identified himself with the soft-liners, Hoebens claimed he endorsed some special tolerance for parapsychology only on the basis of his “intuition”! He considered Gardner’s arguments about the waste of time dealing with unconventional claims, but nevertheless endorsed a positive personal attitude toward the field:

In practice, it is a waste of time to shower “tolerance” on the unorthodox sciences. The chances that we are ridiculing a future Galileo or Pasteur are infinitesimally small. The chances that we are doing society a service by impugning noxious nonsense are accordingly large. Obviously, we cannot carefully examine and give the benefit of the doubt to each and every outlandish idea. It would cost too much time, and too much money that would be more profitably expended on more plausible pursuits. One does not need to have read the Flat Earth literature in order to reject the Flat Earth theory. Some ideas are so ludicrous that they may confidently be dismissed prior to investigation. Why make an exception for parapsychology, where some of the leading practitioners have publicly espoused ideas compared to which the beliefs of the Flat Earth Society seem a model of scientific rigor? . . . I find it difficult to deny the logic of such arguments. All I can do is to point to ‘circumstantial evidence’ supporting a different view and to admit, once again, that there is an element of ‘intuition’ in my own preference for soft-line skepticism. (Hoebens, 1982, in: Hövelmann & Michels, 2017, p. 36)

Should we conclude that there are no sufficient epistemological arguments to justify the courteous reception of parapsychological claims? That one has to rely on a subjective competence, such as negative capability? To solve the demarcation problem in science, we should perhaps explore the diversity of skepticisms and how their different coordinates alter the emerging epistemic attitudes. New research is needed to explore the psychology of paranormal non- or dis-believers with as much interest as for the psychology of paranormal believers (Irwin, 2009; Schriever, 1998).

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### **La Tolérance à l'Inconnu : Capacité au Négatif, Problème de Démarcation, et Dialogue Truzzi-Gardner**

Résumé. Le poète John Keats a inventé la notion de *capacité négative* pour décrire le type d'ouverture d'esprit qui permet de tolérer l'inconnu ou le demi-connu. Il a également décrit une idée similaire relative à notre faculté à prendre en défiance notre propre connaissance et permettre à notre esprit de penser toutes les pensées. Cette capacité peut être considérée selon la perspective de la psychologie des sciences en tant que vertu épistémique, laquelle joue un rôle important au sein de l'étude scientifique des phénomènes anomaux ou ce qui peut être appelé plus succinctement *anomalistique*. Les scientifiques ont-ils suffisamment développé leur capacité négative pour faire face adéquatement aux revendications de phénomènes paranormaux ? Pour illustrer cette question, nous analysons le rôle de la capacité négative au sein de la correspondance récemment parue entre le sociologue Marcello Truzzi et le mathématicien et journaliste scientifique Martin Gardner. Gardner défendait une sorte de scepticisme dur favorisant les préjugés et les labels péjoratifs, tandis que Truzzi promouvait un scepticisme plus souple avec plus de symétrie et un effort de courtoisie envers ceux qui suivaient autant que possible les règles de la science. Ces deux formes de scepticisme ont des bases épistémologiques différentes et cette démarcation interne est analysée à travers la perspective de la psychologie des sciences et son évaluation des vices et vertus épistémiques d'un individu. Cette démarcation interne a un impact sur le problème plus général de la démarcation entre science et pseudo-science. Nous concluons que la capacité négative pourrait être un facteur marquant des recherches futures qui devrait être encouragé et développé par des opportunités éducatives fournies par l'anomalistique et ses dialogues caractéristiques entre sceptiques et tenants.

### **Toleranz gegenüber dem Unbekannten: Negative Fähigkeit, das Demarkationsproblem, und der Truzzi-Gardner-Dialog**

Zusammenfassung. Der Dichter John Keats prägte den Begriff der *negativen Fähigkeit*, um jene Art der Aufgeschlossenheit zu beschreiben, die befähigt, Unbekanntes oder nur Halbbekanntes zu tolerieren. Er beschrieb auch eine ähnliche Vorstellung hinsichtlich unserer Fähigkeit, unser eigenes Wissen zu missachten und den Geist zur Durchgangsstation für alle möglichen Gedanken werden zu lassen. Diese Fähigkeit kann aus der Perspektive der Wissenschaftspsychologie als eine epistemische

Tugend betrachtet werden, die eine wichtige Rolle bei der wissenschaftlichen Untersuchung anomaler Phänomene oder, was man prägnanter als *Anomalistik* bezeichnen könnte, spielt. Haben die Wissenschaftler genügend negative Fähigkeiten entwickelt, um mit den Behauptungen des Paranormalen angemessen umzugehen? Zur Veranschaulichung analysieren wir die Rolle der negativen Fähigkeit innerhalb der kürzlich veröffentlichten Korrespondenz zwischen dem Soziologen Marcello Truzzi und dem Mathematiker und Wissenschaftsjournalisten Martin Gardner. Gardner verteidigte eine Art hartnäckigen Skeptizismus, der Vorurteile und abwertende Bezeichnungen begünstigte, während Truzzi einen milderen Skeptizismus mit mehr Symmetrie und einer höflichen Einstellung gegenüber denjenigen vertrat, die offensichtlich bemüht sind, die Regeln der Wissenschaft einzuhalten. Beide Formen des Skeptizismus haben unterschiedliche erkenntnistheoretische Grundlagen, und diese innere Demarkation wird aus der Perspektive der Wissenschaftspsychologie und ihrer Bewertung der individuellen epistemischen Laster und Tugenden analysiert. Diese innere Demarkation wirkt sich auf die umfassendere Frage der Abgrenzung zwischen Wissenschaft und Pseudowissenschaft aus. Wir kommen zu dem Schluss, dass negative Fähigkeit ein hervorstechender Faktor in der zukünftigen Forschung sein sollte und durch die Möglichkeiten, die die Anomalistik und ihre charakteristischen Dialoge zur Bildung zwischen Skeptikern und Befürwortern bieten, gefördert und entwickelt werden könnte.

### **Tolerancia a lo Desconocido: Capacidad Negativa, el Problema de la Demarcación, y el Diálogo Truzzi-Gardner**

Resumen. El poeta John Keats acuñó el término capacidad negativa para describir al tipo de mentalidad abierta que es capaz de tolerar lo desconocido o sólo medio conocido. También describió una idea similar con respecto a nuestra capacidad para ignorar nuestro propio conocimiento y permitir que la mente se convierta en una vía para todos los pensamientos. Esta capacidad puede considerarse desde la perspectiva de la psicología de la ciencia como una virtud epistémica, que desempeña un papel importante dentro del estudio científico de los fenómenos anómalos o lo que podría denominarse de manera más sucinta como anomalística. ¿Han desarrollado los científicos suficiente capacidad negativa para lidiar adecuadamente con las afirmaciones de lo paranormal? Como ilustración, analizamos el papel de la capacidad negativa dentro de la correspondencia recientemente publicada entre el sociólogo Marcello Truzzi y el matemático y periodista científico Martin Gardner. Gardner defendió una especie de escepticismo de línea dura que favorecía los prejuicios y las etiquetas peyorativas, mientras que Truzzi promovió un escepticismo más suave con más simetría y un esfuerzo cortés hacia aquellos que se esfuerzan diligentemente por seguir las reglas de la ciencia. Ambas formas de escepticismo tienen diferentes bases epistemológicas y esta demarcación interna se analiza a través de la perspectiva de la psicología de la ciencia y su evaluación de los vicios y virtudes epistémicos del individuo. Esta demarcación interna tiene un impacto en el tema más amplio de la demarcación entre la ciencia y la pseudociencia. Concluimos que la capacidad negativa debe ser un factor sobresaliente en futuras investigaciones y puede ser alentada y desarrollada por las oportunidades educativas proporcionadas por las anomalías y sus característicos diálogos escéptico-proponentes.