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General Semantics and Neuroscience

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Abstract

The Paper studies the relationship between *The Art of Awareness* by J.Samuel Bois and *Auto-Pilot: The Art and Science of Doing Nothing* by Andrew Smart, The purpose of the Paper is to examine how these two books discuss how one can make one's thinking more alert and be fully productive. The Paper also presents neuroscientific insights into the relationship between idleness and creativity.

Keywords: General Semantics, awareness, autopilot, neuroscience, creativity.

The Paper studies the relationship between a General Semantics course book, *The Art of Awareness* by J. Samuel Bois, and a pop science book, *Auto-Pilot: The Art and Science of Doing Nothing*, by Andrew Smart, a human factors research scientist. The purpose of the Paper is to examine how these two books discuss how one can make one's thinking more alert and be fully productive. The Paper also presents neuroscientific insights into the relationship between idleness and creativity.

As Samuel Bois says, "A skilful thinker is like any other skilled artisan: he has the most modern set of tools available, he knows which tool is best suited to what he has to do, and he uses every tool with professional dexterity."[1] General Semantics is one of the advanced tools that the human sciences can offer.

Gad Horowitz explains General Semantics as follows:

> GENERAL SEMANTICS is not just one 'human science' among others. It was founded as a movement aimed at advancing human civilization by way of a radical transformation of its basic grammatical-cognitive-affective structures, which is why I teach it as 'radical-general-semantics.' It is not merely one critical theory among others but a set of *PRACTICES*, of the kind that Michel Foucault called 'practices of the self,' which can and should be learned and internalized to some extent, 'neuro semantically,' by every human being beginning in childhood.[2]

Samuel Bois describes the human individual as a thinking, feeling, self-moving, electrochemical organism in continuous transaction with a space-time environment.[3]He sees individuals as semantic transactors. A semantic transaction has at least seven aspects or dimensions: (1) thinking; (2) feeling; (3) self-moving; (4) electrochemical; (5) environmental; (6) past; (7) anticipated future. He points out that.

> The construct of semantic transaction is fundamental to the beginning of a new understanding of ourselves; it allows whoever uses it to make use of the suggestions of general semantics and epistemics for self-guidance in a time of accelerating change.[4]

While pointing out that the study of the nervous system, from the brain to the outer and inner organs of our body, is one of the fascinating fields in the modern human sciences, he explains that

> Mental activities are not independent of organismic activities; thinking has a physical aspect, just like digestion or respiration. The main difference is that instead of going slowly along a series of visible organs, such as the mouth, the stomach, the intestines, the blood, or the lungs, mental activity goes along a series of microscopic nerve cells at a speed that has to be measured in fractions of a second. … There are differences among nerve cells, but all may be described as made of three essential parts (1) a cell body with (2) dendrites on the receiving side and (3) an axon on the transmitting side. The nerve impulse is a wave of electrochemical energy that enters through the dendrites and goes out through the axon. Nerve cells are interconnected and form a most complicated network: one cell may receive impulses from many cells, and it may, in turn, fire nervous impulses to a whole group of sister cells." [5]

While pointing out that our nerve impulses, even between spurts of activity, are not at rest and neutral, he quotes Karl S. Lashley, a psychologist who said

> Neurological theory has been dominated by the belief that the neurons of the central nervous system are in an inactive or resting state for the greater part of the time; that they are linked in relatively isolated conditioned reflex area and that they are activated only when the particular reactions for which they are specifically associated are called out. Such a view is incompatible with the widespread effects of stimulation… also with recent evidence from electrical recordings of nervous activity. It is now practically certain that all the cells of the cerebrospinal axis are being continually bombarded by nerve impulses from various sources and are firing regularly, probably even during sleep. The cortex must be regarded as a great network of reverberatory circuits, constantly active. A new stimulus reaching such a system does not excite an isolated path but must produce widespread changes in the pattern of excitation throughout a system of already interacting neurons. [6]

In his book *Auto-Pilot: The Art and Science of Doing Nothing*, Andrew Smart also says that our brains are active even in the resting-state network or the default-mode network, when we are doing nothing.

Regarding the importance of having awareness in order to be fully productive, Samuel Bois says

> The art of awareness includes the awareness of our physical self, of the quality of our sensations, of the balance of our posture, of our muscular tension or relaxation, of the way we move, walk, and gesticulate. A certain degree of this general

> awareness is desirable for anyone who wants to save his energy and be fully productive.
>
> We may quote here a statement from John Dewey:
>
> > It is not such a simple matter to have a clear-cut sensation. The latter is a sign of training, skill, and habit.[7]

While pointing out that relaxation is a skill that requires constant practice if one is to reach the virtuosity that certain situations demand, Bois remarks that it is a matter of conscious muscular training, like learning to swim, dance, typewrite, or play a musical instrument.[8]He says:

> Learning muscular relaxation is like learning to swim. If we are accomplished swimmers, the chances are that in an emergency, we will be able to do almost automatically what a non-swimmer could not possibly do even if he tried hard.[9]

He says, "… as you relax, and the better you have trained yourself to relax, the less you worry. There is no magic or miracle in this: the organism reacts as a whole."[10]He says:

> The acquisition of a new skill or any change in our self-moving activities -whether it is relaxation, the practice of sensory awareness, or the sudden realization of how it feels to sketch, paint, or create in an art form -is likely to bring about semantic reactions that may surprise us by their deep-reaching significance.[11]

While stressing the importance of relaxation, Bois says:

> Solving a problem or deciding is not merely a matter of logical analysis, of weighing the pros and the cons, of thinking clearly and logically. It is a labor of the whole process, and it may be significantly helped by such conditions as freedom from undue haste and deeper and deeper relaxation, both physical and mental, which may have little relation to the task at hand.[12]

Andrew Smart says that a profound scientific insight occurs when one does nothing.[13]One must realize the intrinsic value of sitting at a café.

Bois says that the practice of General Semantics and epistemics cannot be classified as a science but as a discipline, a set of skills that have to be acquired.[14]He points out

> Of the basic skills that seem valuable in all experimental scientific work, there is one I would like to describe … It is the skill of functioning at what Korzybski calls *the silent level* of perceiving, feeling, touching, and hearing without talking to ourselves while we are sensing.[15]

He says that reaching for a silent level experience involves two steps.

> The first step is … *sensory deconcentration.* It is a way of loosening the concentration involved in whatever we do earnestly. Much of this concentration is a sheer waste of energy…

> The second step, an exercise in sensory awareness, is different in the sense that, instead of stretching our perception to the periphery of our focus of attention, we make the exercise itself the center of our attention.
>
> We can begin by listening to sounds that we seldom pay attention to; for instance, the chirping of birds that fills the air at times and that we take as the background noise of no significance. Or we can look at things in ways that are new and different from our stereotyped way of looking at them." [16]

To reduce anxiety, "it is useful to learn the skill of intentionally narrowing the span of awareness to a limited now by whatever nonverbal means are available, such as sensory awareness, muscular relaxation, living at the silent level." [17]

Regarding the need for rest, Andrew Smart remarks that

> Neuroscientific evidence argues that your brain needs to rest right now. While our minds are exquisitely evolved for intense action to function normally, our brains also need to be idle – a lot of the time, it turns out.[18]

While pointing out that we are too purposeful, too directed and that we should let ourselves go on autopilot more often, he says

> In aviation, autopilot is a system for controlling airplanes without input from pilots, developed because flying an aircraft manually requires absolute, constant attention from the pilot. As flying got higher, faster, and longer, manual flying caused severe (and dangerous) levels of pilot fatigue. The introduction of autopilots allowed pilots to take a break from physically controlling the airplane to save mental energy for higher-risk phases of the flight, like take-off and landing. Today, autopilots use software to fly planes.[19]

He says: "Interestingly, your brain has an autopilot. When you enter a resting state, relinquishing "manual control" over your life, your brain's autopilot engages."[20] He says that just as pilots become dangerously fatigued while flying airplanes manually, we all need to take a break and let our autopilots fly our planes more often. While pointing out that being idle may be the only natural path toward self–knowledge, he says, "Through idleness, great ideas buried in your unconsciousness have the chance to enter your awareness."[21]

Stressing the value of doing nothing, Andrew Smart says that

> "…the incredible brain activity that only happens when you are doing nothing was discovered by accident when subjects in brain imaging experiments just lay in the brain machines daydreaming. I extend this laboratory definition to include any time during your day when you are not on an externally imposed schedule and have the chance to *do nothing* or when you have the freedom to let your mind wander toward whatever comes into your awareness in the absence of busyness. True insight, whether artistic or scientific, emotional or social, can only occur in these all-too-rare idle states."[22]

Andrew Smart explains that neurons are nonlinear threshold devices.[23] He says that "Self-organization can only emerge from nonlinear systems. Examples include brains, societies, economies, and ant colonies; "[24]He says:

> Through a phenomenon called "stochastic resonance," noise in the brain controls the onset of order. Too little noise and neurons cannot pick up the signals sent from other neurons; too much noise and the neurons cannot detect the correct signs. With the right amount of noise, the brain functions normally. This noise benefit can also only occur in nonlinear systems. Put noise in a linear system, and you get the noise out; put noise in a nonlinear system like a brain, and you might get a symphony or a novel.[25]

He says that because the brain is a nonlinear system, a reduction in its variability is actually the sign of pathology and that Six Sigma can be thought of as an organizational pathogen.[26]

While pointing out that being idle might make one creative, he says:

> Allowing the brain to rest opens the system to exploiting these mechanisms of nonlinearity and randomness and amplifies the brain's natural tendency to combine precepts and memories into new concepts. Anecdotal evidence from writers and artists, as well as recent psychological studies, leads to the understanding that in order to really tap the creative potential of the brain, a complex nonlinear system, we should allow ourselves long, uninterrupted periods of idleness. At a minimum, it is possible that resting is as important for brain health as is directed mental activity, if not more important.[27]

While stressing the importance of leisure and effortlessness, Andrew Smart says:

> Confucianism actually disdained hard work and instead idealized leisure and effortlessness….Lawrence.E.Harrison, a senior research fellow at Tufts …writes that the highest philosophical principle of Taoism is *wu-wei*, or non-effort, which means that a truly enlightened person, either spiritually or intellectually, goes about life with the minimum expenditure of energy. In military matters, the ancient Chinese held that a good general forces the enemy to exhaust himself and waits for the right opportunity to attack, using the circumstances to his advantage while doing as little as possible. This is in contrast to the Western idea of trying to achieve some pre-defined objective with overwhelming effort and force.[28]

He says that Samuel Johnson published a series of essays on the benefits of being idle in the periodical *The Idler* from 1758 to 1760 and wrote that.

> Idleness… may be enjoyed without injury to others; and is therefore not watched like Fraud, which endangers property, or like Pride, which naturally seeks its gratifications in another's inferiority. Idleness is a silent and peaceful quality, that neither raises envy by ostentation nor hatred by opposition; therefore, nobody is busy to censure or detect it.[29]

He also quotes the American humorist Christopher Morley who published his now-classic essay *On Laziness*: "The man who is really, thoroughly, and philosophically slothful, is the only thoroughly happy man. It is the happy man who benefits the world. The conclusion is inescapable."[30]

Rainer Maria Rilke says that "… it is very important to be idle with confidence, with devotion, possibly even with joy."[31]He knew that spending time doing nothing was extremely important for his creative process. He said that the only journey is the one within. Our mind begins to wander, and the contents of our unconsciousness can percolate into awareness.[32] Typically, we think of Newton seeing the apple fall as some serendipitous moment in the history of science.[33]What can we learn from Rilke and Newton, two towering figures of literature and science, asks Andrew Smart.

He points out that those sudden flashes of insight or "Aha" moments often come during what Rilke eloquently described as the "last reverberations of a vast movement that occurs within us during idle days."[34]He says:

> Rilke could not have known how spot-on his metaphorical use of the word "reverberations" would become almost a century later in modern neuroscience …assemblies of neurons in our brains reverberate even while we are doing nothing. In fact, some groups of neurons in the "hubs" of our brain's many networks reverberate more intensely while we are at rest. This is a recent discovery, and one that, to my knowledge, has not reached a popular audience. This book is about taking the idea of reverberation seriously – and using neuroscience as the ultimate excuse for taking it easy. One of the great paradoxes of modern life is that technology, for all its advantages, is actually taking away our leisure time. We are now wired 24/7. Idleness has become an anachronism.[35]

Andrew Smart points out that the "resting-state network" (RSN) or "default-mode network" (DMN), as it is called, was discovered by neuroscientist Marcus Raichle of the Washington University in St Louis in 2001.This network comes alive when we are not doing anything. [36]

He says that "continually stretching our mental capacity beyond its limits leads to worse job performance, fatigue, and eventually chronic psychological and physical disease."[37]

Regarding being innovative and creative, he remarks that

> The only system we know of in the universe that can be innovative is the human brain. But the brain seems to need things like freedom, long periods of idleness, positive emotions, low stress, randomness, noise, and a group of friends with tea in the garden to be creative.[38]

Thus, the General Semantics course book *The Art of Awareness* by J. Samuel Bois stresses on muscular relaxation, functioning at the silent level and sensory awareness to be fully productive, while the pop science book *Auto-Pilot: The Art and Science of Doing Nothing* by Andrew Smart stresses on allowing our brains to be in the resting-state network to be creative.

Notes and References

1. Bois, Samuel. J. *The art of awareness – A handbook on epistemics and general semantics* -Fourth edition, Santa Monica, California, Continuum Press & Production,1966, 1996, p.225
2. Horowitz, Gad with Colin Campbell. Horowitz, Gad, Shannon Bell (Eds) *The Book of Radical General Semantics*, Delhi, Pencraft International, 2016, p iii
3. Bois, p. 34
4. Ibid., pp.46,47
5.Ibid., p. 52
6. Ibid., pp.57,58
7. Ibid., p.71
8. Ibid., p.74
9. Ibid., p75
10. Ibid., p75
11. Ibid., p165
12. Ibid., pp.36,37
13. Smart, Andrew. *Auto-Pilot -The Art & Science of Doing Nothing*, Delhi, Fingerprint, 2013,2017, p.11
14. Bois, p19
15.Ibid., p317
16. Ibid., pp.318,319
17.Ibid., p.266
18. Smart, Andrew.p.1
19. Ibid., p.2
20. Ibid., p.2
21. Ibid., p.3
22.. Ibid., p 4
23. Ibid., p.6
24. Ibid., p.7
25. Ibid., pp.9,10
26. Ibid., p.10
27. Ibid., p.12
28. Ibid., p.14
29. Ibid., p.15
30. Ibid., p.16
31. Ibid., p.1
32. Ibid., p.68
33. Ibid., p.68
34. Ibid., p.18
35. Ibid., p. 19
36. Ibid., p.19
37. Ibid., p.32
38. Ibid., p.126