

The Extended Sensorium

Helen Keller: Mind over Instrumentation

by Meghan Rouillard

Part I of 2

In his recent report, “What Makes Sense,”¹ Lyndon LaRouche refers to the case of Helen Keller, as a case which can provoke us to think about the relationship between the human sensorium and the power of the human mind:

“I have emphasized, on this account, that if we treat experiences of sense-perception as being shadows cast by some unseen reality, as a now rich harvest of scientific instruments suggests, our attention is turned to the evidence of cases such as that of the celebrated case of Helen Keller, which warn us that a realm of five attributed human senses, is not the essential means on which the human mind should rely to steer efficient interventions into whatever the real world might be, that apart from a presumed direct and unique reality linking the world around us into the fruits of sense-perception as such. For example, could a person blind from birth, gain knowledge of the real world, which can be ultimately, as reliable, in effect, as an idea of the real world around us had by one with ordinary use of the five preferred senses?”

Let us examine this, here, by exploring aspects of her case, which, although extraordinary, is the case of how a human being is capable of operating with an impaired sensorium.

Helen's Senses

Helen's account of her senses begins with the “seeing hand” of the “blind seeing”, the sense of touch, which she says is unique:

“My fingers cannot, of course, get the impression of a large whole at a glance; but I feel the parts and my mind puts them together. I move around my house, touching object after object in order, before I can form an idea of the entire house... It is not a complete conception, but a collection of object-impressions which, as they come to me, are disconnected and isolated. But my mind is full of associations, sensations, theories, and with them it constructs the house. The process reminds me of the building of Solomon's temple, where was neither saw, nor hammer, nor any tool heard while the stones were being laid one upon the other.”

“Touch cannot bridge distance, -it is fit only for the contact of surfaces, -but thought leaps the chasm. For this reason I am able to use words descriptive of objects distant from my senses. I have felt the rondure of the infant's tender form. I can apply this perception to the landscape and to the far-off hills.”²

However, she says she is not in a position to say whether vision or touch is a better sense to have. Smell is, for her, “the fallen angel” of the senses:

“Touch sensations are permanent and definite. Odors deviate and are fugitive, changing in their shades, degrees, and location. There is something else in odor which gives me a sense of distance. I should call it horizon—the line where odor and fancy meet at the farthest limit of scent. Smell gives me more idea than touch or taste of the manner in which sight and hearing probably discharge their functions. Touch seems to reside in the object touched, because there is a contact of surfaces. In smell there is no notion of relief,



Helen with a magnolia, 1920

and odor seems to reside not in the object smelt, but in the organ. Since I smell a tree at a distance, it is comprehensible to me that a person sees it without touching it.”

On the one hand, Keller clearly demonstrates and expresses the capability to “milk,” if you will, her other senses more than most of us are able to. Her descriptions of these impressions are surely more vivid than those of most of us who are neither blind nor deaf. But studies have shown that she did not, in fact, have senses that were extraordinary relative to our own (those of us with vision and hearing, that is). This, and Helen's own words, will point us to an important fact about the power of the human mind over the senses.

In 1928, University of Chicago neurologist Dr. Frederick Tilney spent time with Keller and tested the acuity of her senses of touch and smell as compared with those of other, so-called regular people who have optimal vision and hearing. The results he found were rather surprising. Helen's sense of touch and smell registered as no more keen than average. Dr. Tilney, in his research paper, a comparative sensory analysis of Helen Keller and Laura Bridgman,³ had hypothesized that Keller's sense of smell must have contributed significantly to her development, a sense which Bridgman lacked, in addition to the senses of sight and hearing. Among other differences, Bridgman's command over language was much less developed than Keller's. The following is an account of Tilney's test of Keller's sense of smell:



Helen Keller

"To measure the sensitiveness of Helen Keller's olfactory nerves, Dr. Tilney prepared oils, such as wintergreen and asafetida, in various dilutions, (also alcohol, peppermint, formaldehyde, eucalyptus) and asked her to tell him when she could notice any difference between various odors. The weakest dilution of alcohol that she could smell was one part in 16. She detected eucalyptus as weak as one part in 64, wintergreen one part in 128, peppermint one part in 1024, and asafetida one part in 2048. And this is about the sensitiveness of the average person's smelling equipment."⁴

To Dr. Tilney's surprise, his tests of her olfactory sense showed that it was no more keen than that of the so-called average person. Tilney cites a letter from Keller to himself, written at his request, on her impressions of the sense of smell. In it she referenced various passages from Shakespeare plays, Greek philosophers, and the bible, where she thought the sense of smell was referenced in an especially poetic way. He also tested the other sense which we might assume was a kind of supersense for Helen Keller, that of touch. He tested various aspects, such as localisation, pressure, temperature, vibration, and found in each and every case that she scored only average. An interesting side note regarding these tests, which alludes to another part of this report, is the reason given, at the time, to account for the discrepancy in "sense of direction" between Keller and Bridgman. This was a feature of the balance test. The action of spinning in a chair was only sensed by Keller from the wind blowing on her face. She experienced no other feeling associated with it. For Bridgman, there was more sensation involved, including dizziness, which Keller did not feel. Bridgman could also more accurately determine the difference between the direction she faced in the chair before and after being turned. Interestingly, Dr. Tilney attributed this difference in "sense of direction" to "*a sense which would explain the mysterious homing of the pigeon and the*

straight, sure flight of the birds to their summer and winter homes. Experiments now underway at Columbia University indicate that this sense may prove to be a magnetic sense located in the retina of the eye... Bridgman had a retina which may have functioned magnetically even in blindness to aid her a little in sensing direction. Whereas, Miss Keller, lacking this aid almost from birth, illustrates the negative side of the case." This is a provocative point to consider, but the results of these studies, and the further work since done on this has not been explored much, and will not be addressed further here, but it should be kept in mind in the context of this entire report.⁵

Of course, we can question the kinds of tests which were performed, in terms of measuring the senses, but the results, and Dr. Tilney's ultimate conclusion, are interesting nonetheless. On the one hand, we can ask whether the tests for the senses in fact test all of their possible dimensionalities. The possibility that they did not, and still do not, is alluded to in various other reports here.⁶ The other conclusion which can be drawn, was, in a sense, Dr. Tilney's own main conclusion: "Miss Keller's sensory organisation for the primary conduction of afferent impulses thus does not appear to be different from that of the average run of humanity. Her sensory supremacy is entirely in the realm of the intellect."

He further specified that he thought, "the great difference exists in her use of the senses by the development of her brain." He referred to the parietal lobe being potentially very developed, but this was not tested. The ability to test neuroplasticity was not available in 1928—for example, those investigations as to whether parts of Helen's brain, which would have been activated through the senses of sound and sight, were otherwise engaged. Tilney's suggestion that she appeared to be using more of her brain than those of us five-sensed creatures remains somewhat ambiguous as to its meaning, and it is a question we cannot answer now through studying her brain, of course. But regardless, what we will be confronted with here, is that Helen's mind may have been more engaged and active than those of some typical seeing and hearing members of the population. How? Through some more active "higher brain functions?" Was it through the tools of irony and metaphor, those associated with human creativity? Whether or not Dr. Tilney spoke of this *per se*, it was clearly on his mind, and it is for you to judge based on the facts of her case.

The Analogy of the Senses

In addition to an added reliance on her senses of smell, taste and touch, she also used what she called analogies between these senses to fill in for the missing senses, such as vision, whose impressions she adduced from a sense of taste. Today, we might call this a kind of synesthesia.⁷ She says of it:

"I understand how scarlet can differ from crimson because I know that the smell of an orange is not the smell of a grapefruit. I can also conceive that colours have shades, and guess what shades are. In smell and taste, there are varieties not broad enough to be fundamental, so I call them shades."

"Through an inner law of completeness my thoughts are not permitted to remain colourless."

She is attacked sometimes for using such controversial imagery as "colour" in her poetry. For of course, according to such critics, she does not understand the *right* idea of colour. Keller's obituary recounts the story of one particular reaction to her 1902 autobiography:

"Most reviewers found the book well written, but some

Helen Keller: Mind over Instrumentation

critics, including that of *The Nation*, scoffed. "All of her knowledge is hearsay knowledge," *The Nation* said, "her very sensations are for the most part vicarious and she writes of things beyond her power of perception and with the assurance of one who had verified every word."⁸

Sense perceptions clearly vary individual to individual, another reason why a single visual sense perception, for example, is not reality. She agrees that her concept of colour may not be the same as mine, or yours, but insists that her own thoughts do not lack that attribute. We may ask ourselves the question—was she tuned into some other dimensionality of these senses? LaRouche has now made this a provocative point to consider. But we can also ask ourselves how the power of the human mind itself serves to overcome these frailties. On this she says:

"Philosophy constantly points out the untrustworthiness of the five senses and the important work of reason which corrects the errors of sight and reveals its illusions."

Let us explore for a bit this philosophical debate.

The Mind's role

In 1886, six years after Helen Keller's birth, Ernst Mach, associated with the positivist school of thought, said that the only thing which is in fact real, is the sum of our sense impression; the human soul is the receptacle for these impressions, nothing more. It is as though Mach would say, when we stop seeing and hearing, we have lost 40% of ourselves, since 40% of so-called reality is no longer accessible to us through our senses.

From Mach's "Contributions to the Analysis of Sensations, the Sensations as Elements: Antimetaphysical,"⁹

"The primary fact is not the I, the ego, but the elements (sensations). The elements constitute the I. That I have the sensation green, signifies that the element green occurs in a given complex of other elements (sensations, memories). When I cease to have the sensation green, when I die, then the elements no longer occur in their ordinary, familiar way of association. That is all. Only an ideal mental-economical unity, not a real unity, has ceased to exist... For us (the positivists) colours, sounds, spaces, times... are the ultimate elements, whose given connexion it is our business to investigate. In this investigation we must not allow ourselves to be impeded by such intellectual abridgments and delimitations as body, ego, matter, mind, etc."¹⁰

We can imagine the twelve year old Keller in her own her own words taunting the misanthropic Mach: "*Mind, mind alone, is life and hope and light and power!*"

Keller herself was clearly no philosophical student of Mach: "...From philosophy I learn that we see only shadows and know only in part, and that all things change; but the mind, the unconquerable mind, compasses all truth, embraces the universe as it is, converts the shadows to realities... though with my hand I grasp only a small part of the universe, with my spirit I see the whole, and in my thought I can compass the beneficent laws by which it is governed."

In addition to her own words, Keller's very existence shows Mach's outlook to be problematic in a few ways. On the one hand, we can ask ourselves whether losing the ability to perceive visible light really means losing vision entirely, and

she herself questions this:

"Has any chamber of the blind man's brain been opened and found empty? Has any psychologist explored the mind of the sightless and been able to say, 'There is no sensation here?'"

But more important, reflect on the point which became a source of much contention between Mach and the behaviorist school in psychology on the one hand, and the likes of Max Planck and Wolfgang Koehler on the other. What is implied in the writings by these latter two scientists, is that that which we know to be real is first and foremost our own thoughts. Of course, we can test their efficiency, and the conceptions

"The best and most beautiful things in the world cannot be seen nor even touched, but just felt in the heart."

- Helen Keller, 1891

communicated by Helen Keller, about the nature of man, for example, resonate with us because they are true. Unlike the animals, we can create an efficient conception in the mind, known to be efficient because it can be tested experimentally, and if it represents a true discovery, it would represent, in potential, a complete break from all that we have experienced. But, the main point missed by Mach, and the most glaring thing that he cannot account for, is

that after one's death, something real, in terms of something efficient, does persist. Something which has no sensual perceptions, but whose presence can be powerful in its effect.

As Helen Keller's case illustrates and reveals to us, the reality which is most important, is that which we know through the mind. It is that part of us which lives on and acts when we are no longer able to perceive.

Gottfried Wilhelm Leibniz, in a correspondence with Queen Sophie Charlotte, elaborated why it is that, contrary to positivist belief, sense impressions are something other than truth which the mind gleans:

"Being, itself, and truth are not known wholly through the senses; for it would not be impossible for a creature to have long and orderly dreams, resembling our life, of such a sort that everything which it thought it perceived through the senses would be but mere appearances. There must therefore be something beyond the senses, which distinguishes the true from the apparent. But the truth of the demonstrative sciences is exempt from these doubts, and must even serve for judging the truth of sensible things. For as able philosophers, ancient and modern, have already well-remarked:—if all that I should think that I see should be but a dream, it would always be true that I who think while dreaming, would be something, and would actually think in many ways, for which there must always be some reason.

"Thus what the ancient Platonists have observed is very true, and is very worthy of being considered, that the existence of intelligible things and particularly of the Ego which thinks and which is called the spirit or soul, is incomparably more sure than the existence of sensible things; and that thus it would not be impossible, speaking with metaphysical rigor, that there should be at bottom only those intelligible substances, and that sensible things should be but appearances. While on the other hand our lack of attention makes

us take sensible things for the only true things. It is well also to observe that if I should discover any demonstrative truth, mathematical or other, while dreaming (as might in fact be), it would be just as certain as if I had been awake. This shows us how intelligible truth is independent of the truth or of the existence outside of us of sensible and material things. This conception of being and of truth is found therefore in the Ego and in the understanding, rather than in the external senses and in perception of external objects.”¹¹ (*On the Supersensible Element in Knowledge, and On the Immaterial in Nature, 1702*)

Max Planck himself, who refers to Leibniz in his own writings, used this same example to convey the same idea, over 200 years later, against the positivists such as Mach.

“I may dream all sorts of things during the night; but the moment I wake up the reality of my surroundings gives the lie to the dream. The empiricist however cannot logically admit that. For him there is no waking reality; because the subjective sensation is the sole basis and criterion of knowledge. Now the dreamer during the dream believes automatically in its reality and, according to the empiricists, the wideawake person believes automatically in the reality of his sense-perceptions; but has no more reason than the dreamer has for saying that one set of perceptions is false and the other true... All of this of course amounts to a repudiation of common sense; so much so that even the most advanced sceptics of this school find themselves constantly compromising between the claims of common sense and the purely logical conclusions of their own philosophic system.”¹²

He clarifies the fundamentally opposed outlooks himself:

“As long as we logically pursue the positivist teaching we must exclude every influence of a sentimental, aesthetic, or ethical character from our minds...”

But, he elaborates, this alone leaves out entirely the role of hypothesis, which no one can deny has been the source of science’s achievements. He refers to the case of astronomy, as a science which has developed not simply because of the cataloged observations of individuals. The very nature of science as a study by mankind depends on recognising the contradictory nature of various experiments done by various individuals, from which new conceptions must be developed. The unique conceptions of individuals, not simply their cataloging of observations, is what has caused science and mankind to advance.

“If we look at (empiricism) purely from the viewpoint of knowledge it leads to a blind alley... In order to escape from this impasse there is no other way open but to jump the wall

at some part of it, and preferably at the beginning. This can be done only by introducing once and for all, a metaphysical hypothesis which has nothing to do with the immediate experience of sense-perceptions or the conclusions logically drawn from them.”

With Helen, we have a clear case of someone who thought of herself as having instrumentation, from which an image of reality could be gleaned through the mind; through generating a mental picture which can, potentially, be something completely efficient. She implies that her imagination is more actively engaged as a result of lacking the sense of vision. The particular burden of vision, as she describes it, is that the sensing person is less clear of the fact that their mind is forming a picture of reality from impressions of instruments. Reality is not being imparted from the eyes to the mind, which is simply a receptacle. Rather, the mind is always working to construct this picture of reality, and perhaps moreso when the impressions are not being perceived at the same time, as with an image which can only be built up over time. At least the primacy of the mind’s role may be more clear to the perceiver in this case. She says that she will not claim who generates a more efficient conception, the seer or the blind, who sees through touch, but as her own writings show clearly, this woman who could not see, had a real sense of the power of her own mind, and an efficient conception of reality, which we know because her thoughts can move us and can generate powerful ideas within our own minds.

“Order, proportion, form, cannot generate in the mind the abstract idea of beauty, unless there is already a soul intelligence to breathe life into the elements. Many persons, having perfect eyes, are blind in their perceptions. Many persons, having perfect ears, are emotionally deaf. Yet these are the very ones who dare to set limits to the vision of those who, lacking a sense or two, have will, soul passion imagination... I, too, may construct my better world, for I am a child of God, an inheritor of a fragment of the Mind that created all worlds.”

She constructed an image of the universe outside of her, and within her, which, as we can attest from reading her writings, is not foreign to those of us who lack her impairments. We have suggested that Helen’s senses, those she possessed, were not more powerful than our own. The question can be asked, to what extent was she also tuned into more dimensions of the senses than those associated with their characteristic impressions? Are there perhaps other aspects to which we are less sensitive, or simply less aware?

Footnotes

¹ Lyndon LaRouche, “What Makes Sense?” 2010. larouchepac.com

² Keller, Helen, *The World I Live In*, 1908, in New York Review of Books, 2003.

³ Tilney, Frederick, “A Comparative Sensory Analysis of Helen Keller and Laura Bridgman,” Archives of Neurology and Psychiatry, 1928.

⁴ Davis, Emily C., “Helen Keller Shows Future of Brain.” The Science Newsletter, Vol. 14 No. 387 (Sep. 8) pp. 141-142+147-148.

⁵ See Ben Deniston’s report on Magnetoreception.

⁶ See variously the reports by Halevy, Shields, etc.

⁷ See Oyang Teng’s report on Synesthesia.

⁸ <http://www.nytimes.com/learning/general/onthisday/bday/0627.html>

⁹ Mach, Ernst, in *The Classical Psychologists*, compiled by Benjamin Rand, PhD, Houghton Mifflin, 1912.

¹⁰ Or, as one of Newton’s worst enemies pointed out to me, see the end of Newton’s Principia, to the same effect: “What the real substance of any thing is we know not. In bodies, we see only their figures and colours. We hear only the sounds. We touch only their outward surfaces. We smell only the smells, and taste the flavours; but their inward substances are not to be known either by our senses, or by any reflex act of our minds...” See Michael Kirsch’s report on the history of empiricism here: <http://www.larouchepac.com/node/13834>

¹¹ Leibniz, G.W., in G.W. Leibniz, *Philosophical Essays*, translated by Roger Ariew, and Daniel Garber, 1989, Hackett Publishing, Indianapolis.

¹² Planck, Max, *Where is Science Going?* Ox Bow Press, Woodbridge, CT, 1981.