

SACNA PRESIDENTIAL ADDRESS

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Ladies and gentlemen

In previous SACNA conferences, we did not have formal presidential addresses by incoming presidents. I am therefore very pleased that for our 12th biennial conference, the executive committee agreed that such an address should be included. My vision for SACNA in the next two years is that we will not only improve on our past efforts, but that we will bring about a revolution in neuropsychology, irrespective of what happens at the HPCSA or the universities. What revolution? I am talking about fundamental changes, first in our understanding of what psychology and neuropsychology are. Second, I am urging a fresh look at the way neuropsychologists are trained. Finally, I want to propose the actions we should take in order to change the face of neuropsychology and psychology as a whole. The views I am about to discuss are a summary of a pay-per view monograph I published on the internet at www.molecularpsychologyassociation.com, entitled: “*Psychology is Entirely Physical: Taking the Mind out of Behavioural Neuroscience*”

Let me now turn to the first question. What is neuropsychology?

By definition, neuropsychology is a branch of psychology. It is therefore necessary to first pay attention to the general field. The word “psychology” derives from ancient Greek, and it literally means *the study of the mind, soul, or spirit*. The mind, soul and spirit are immaterial entities that have no mass and do not occupy space. As such, these entities fall outside the scope of natural science and belong rather, to philosophy and theology. It is therefore a contradiction in terms to refer to psychology, so defined, as a science.

The name “psychology” does not describe what we, as contemporary psychologists do. We do not study minds, souls, or spirits. Psychology, as it is often defined, is the scientific study of human and animal behaviour. The word behaviour is defined broadly to include both overt and covert actions. These actions include arousal, consciousness, alertness, sensation, perception, learning, motivation, emotion, speech, memory, and interpersonal behaviour. The focus on *behaviour* transforms what we normally refer to as psychology into something physical, because all behaviours are actions or motions. When we talk about motion, we are in the realm of physics. Isaac Newton’s second law of motion states that motion or acceleration is directly proportional to force and inversely proportional to mass:

(acceleration = Force/mass). *Force* presupposes energy, and, as Albert Einstein showed, *energy* is equivalent to *mass* ($E = mc^2$).

If psychological processes consume energy, it means they are physical. By the term physical, I mean that psychological processes arise from substances, or matter. They are material and not immaterial, as the name “psychology” suggests. Modern technology in the form of PET scans, functional MRI, EEG, regional cerebral blood flow, and others, allow us to observe in real time, energy consumption during psychological activity. In 1985, Roland and Friberg used regional cerebral blood flow to show that cortical energy consumption during thinking was equivalent or larger than the estimated energy consumption during intense voluntary movements or intense processing of external sensory information.

There is overwhelming evidence for the physical mechanisms of psychological processes, and almost every paper presented during our conference attests to that, directly or indirectly. The starting point for all psychological processes is sensation, the capture, by our senses, of energy in its various forms, such as light and heat. so that we can see, hear, touch and taste. In our sense receptors, these energies are transduced into electrochemical energy, which travels round the entire nervous system. The captured energy is processed by the anatomical structures and functional systems of the brain to bring about what we conventionally refer to as “psychological” processes. All of this happens under the influence of genetics, evolution, and current environments. With respect to current environments, an artificial distinction is often made between physical and social environments, with the latter being considered as

non-physical. This is not correct. The social environment is a subset of the physical environment. Social factors only impact us because we can see, hear, and feel them. Furthermore, these so-called social factors are significant to us only because of their biological effects. For example, the social factors we label as stress, stimulate the hypothalamico- pituitary-adrenal axis, leading to the fight flight or freeze reaction, or to long-term damage to all body systems. The nervous system is just one of the 11 body systems, and when it is dysfunctional, conditions such as depression, anxiety, and the frontal lobe syndrome arise.

Everything I have said up to this point was leading to this: Psychology is entirely physical, both in the sense that all disciplines and topics in psychology are physical; and in the sense that psychology is physical and nothing else but physical. For reasons given in my original monograph, the word physical is interchangeable with matter, substance, chemical, anatomical, physiological, biological, organic, mechanical, medical, organic, neurobiology, and neurological. If psychology is physical, it cannot be identified with the name “psychology” itself, because this name implies immateriality. In place of the name psychology, we should rather use a name such as *behavioural neuroscience*, because the entire field of psychology is about brain-behaviour relationships. To take matters to their logical conclusion, we should not only discard the name psychology, but should also discard anything with the name psychology or *psych* as part of its name. *Neuropsychology* is one such name. If we reject neuropsychology as our name, what then do we become?

My answer is that neuropsychology and related biological psychology disciplines like physiological psychology should cease to exist as special disciplines in psychology, because they should not really be unique in their focus on brain-behaviour relationships. What we currently call neuropsychology is actually what all of psychology should be –behavioural neuroscience or the study of brain- behaviour relationships in both animals and humans. I propose that all branches of psychology should be re-labelled as behavioural neuroscience, but they should further be classified into specialities as follows: Psychology = [Behavioural neuroscience (general)]; Educational Psychology = [behavioural neuroscience (educational)]; Industrial psychology = [behavioural neuroscience (industrial)]; Clinical psychology to

amalgamate with neuro and counselling psychology = behavioural neuroscience [(clinical]; Research Psychology = [behavioural neuroscience (research)], and so on.

I would like to briefly explain the reasons for amalgamating clinical psychology, neuropsychology, and counselling psychology. The main reason is that the three professions deal with the same basic phenomenon - emotional, cognitive, social, and behavioural difficulties. As one moves from counselling psychology, through clinical psychology and neuropsychology, to psychiatry, the focus is on supposedly more and more severe psychological disturbance. Irrespective of the severity of the condition, ultimately there are underlying neurophysiological aberrations, usually in the form of neurotransmitter imbalances. In other words, the differences between the conditions are merely quantitative rather than qualitative.

The three disciplines, counselling, clinical psychology, and psychiatry differ in their intervention methods. At face value, counselling and clinical psychology use “psychological” or, if I may call it so, soul-mind-spirit methods, whilst psychiatry uses what may variously be called physical, organic, biological, or medical methods. My contention is that this is just not true. Psychiatry is not unique in its use of physical methods. Every act of counselling and psychotherapy brings about biological change. If counselling can help a person to feel calm, then it has changed the pattern of activity in the autonomic nervous system. In 1999, Liggan and Kay reviewed the literature on psychotherapy, and found that psychotherapy has demonstrable biological effects. Psychotherapy affects cerebral metabolic rates, serotonin metabolism and the thyroid axis (reduction in T4). It also stimulates processes akin to brain plasticity. Given such facts, it becomes clear that the difference between psychiatry and the psychology professions is that psychiatrists systematically and deliberately target nervous system activity, whilst counselling and clinical psychologists affect the nervous system unwittingly. Psychotherapy, like psychiatry, is undeniably physical, organic, biological, and medical.

Ladies and gentlemen, I think I have said enough about why I think that the subject matter of psychology in general and not just neuropsychology is pure physical science. What I need to deal with now are the consequences of our continued use of “psychology” as our name, and

our failure to recognize the entirely physical nature of psychology or behaviour: The name “psychology” is a misnomer, because we do not study minds, souls, or spirits. On this basis alone, it is enough to reject the name. If we use an incorrect name, it is almost guaranteed that our purpose, capabilities, and our role in society will be misunderstood. The following examples illustrate the point.

- The name psychology perpetuates the outdated dualistic concept that the mind exists separate from the body. In this scenario, the mind is considered inferior. The scorn with which the so-called mind is held is revealed in expressions such as, “it’s just psychological”.
- Given the scorn with which the so-called mind, and therefore the study of the mind (psychology) are held, it is not surprising that psychology suffers so much discrimination. This is particularly evident in the health sphere. It is strange for example, that a psychologist with a Master’s degree gets paid the same or less than a general practitioner with a bachelor’s degree (MB. ChB). Furthermore, a medical practitioner with a Master’s degree (M. Med) qualifies to be called a specialist, and yet the same honour is not accorded to a psychologist with a doctorate. The following schema based on medical aid fees for services illustrates the point clearly

M.Med > MB.ChB > Ph.D (Psych) = M.Sc (Psych) > B.Sc Psych (Hons).

It is interesting to note, firstly, that academically, the Ph.D is higher than an M.Med and certainly higher than an MB.ChB. Secondly, it is strange that after an extra minimum 4 year- degree to get a doctorate, Ph.D psychologists still earn the same fee as those with a Master’s degree.

- Because of the perceived inferiority of the so-called mind in contrast to the body, psychologists themselves often reveal excessive humility and ambivalence about their status as health workers. I have often heard psychologists identifying themselves with words such as “I am not a doctor. I am just a psychologist”. This ambivalence is revealed by the reluctance of some psychologists to refer to their patients as “patients”, preferring rather, to refer to them as “clients”. Some psychologists are even shy to refer to their own court reports as medico-legal reports, and refer to them

as “psycho-legal reports”. Even though the word “psychotherapy” means psychological *treatment* many psychologists and other health workers do not view it as treatment. When admitting patients to hospital, psychologists are often asked, “who will be treating your patient?” To drive the point home, the patient is officially recorded under the name of the attending psychiatrist, and not the admitting psychologist. Generally, psychologists do not fight enough for their rights and entitlements in hospitals and in their relationship with medical aid societies.

- Finally, in the mistaken belief that psychology only attends to the non-physical aspects of a person, psychologists tend to show reluctance, or even loathing, for anatomy and physiology. This is reflected by the fact that psychologists are not taught to perform even the simplest physical interventions such as first aid. Psychologists tend to gloss over medical information in a patient’s file, and generally keep themselves ignorant about the real physical basis of the behaviours that they claim to understand and attempt to control. As psychologists, we must fully accept the physical nature of their discipline. If we do not do this, we will remain like mere technicians, who know how to make things work, but do not understanding the underlying science. In this way, we would be much like traditional healers, who treat their patients successfully with herbs, but do not understand the chemistry involved.

I will now conclude my talk by taking another look at the SACNA objectives, which as far as I could determine, were first formalized in 1981. The SACNA constitution lists 6 objectives for the association. Briefly stated, the objectives are to support a unitary and democratic healthcare in South Africa, to disseminate knowledge and skills in neuropsychology, to offer advice on training and professional matters, to help in identifying individuals competent in neuropsychology, to foster and encourage the development of training facilities for neuropsychology, and to foster international co-operation in neuropsychology.

Over the years, SACNA has done all it could to fulfil these objectives, and continues to do so. However, in the light of the issues I discussed earlier in my talk, I strongly recommend that SACNA needs to revisit its objectives. We now need to set out objectives that ensure a more prosperous future for neuropsychology and neuropsychologists. With this in mind, I propose that we should add the following to the objectives of SACNA.

1. To ensure that the training of neuropsychologists is firmly rooted in the physical sciences, in order to make neuropsychology more effective in explaining, assessing, and treating neurological conditions.
2. To promote the understanding that the broad field of psychology is behavioural neuroscience, and not merely a social or humanistic science.
3. To use effective marketing techniques to promote neuropsychology within the health industry and the general public.
4. To cooperate with other psychology associations nationally and internationally in order to protect the interests and welfare of psychologists with respect to remuneration, specialist recognition, and any other area of interest.

The tasks set out above require a great deal of creativity, a broad range of expertise, finance, and time commitment. I propose that every member of SACNA should be provided an opportunity to play a role in the promotion of our objectives. For this reason, I will propose to the executive committee that SACNA should form Task Teams comprised of members of the executive and non-executive members, to attend to various and urgent tasks. I have drafted action plans for consideration by the executive committee. Expect to hear from us soon, either through e-mails or announcements on our website.

Thank you

A handwritten signature in dark ink, appearing to read 'Joachim FL Mureriwa', written in a cursive style.

Joachim FL Mureriwa
President