

CONFIDENTIAL

REPORT: DEMONSTRATION OF THE KRÜGEL THEORY TESTER (KTT) TO A PANEL OF EXPERTS AND SPECIALISTS

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Inventor: Mr D Krügel

Date: 12 June 2008

BACKDROP

The KTT utilizes novel technology for the detection of a wide range of substances across a similarly wide range of distances and in terms of specificity and sensitivity the technique has been claimed to be extraordinarily powerful. The technology has been applied in various scenarios (predominantly the fields of crime-prevention, forensics and mineralogy) and reported on by, amongst others, the national media in South Africa. The benefits of the technology in the fields of health (diagnostics and possible treatment of for example cancer, HIV/Aids, emerging pathogens etc.), microbiology (identification, classification and control), botany and zoology (classification, prevalence, migration), chemistry and biochemistry (quantitative analysis) and biotechnology (new developments and techniques) are potentially far-reaching. However, its applicability in the broader field of biology has not been fully considered, nor has its effectiveness been evaluated over short distances and on various compounds. Although the core-principle of the technology is to date undisclosed, the applicability and reliability thereof in selected scenarios has become a priority. Thus, the aims of the demonstration were to:

1. Assess the effectiveness of the KTT across various distances and substances using fundamental research-methodological principles;
2. Perform the above in the presence of a group of independent scientists in order to support the credibility of the process; and
3. Debate and contemplate the effectiveness, reliability and possible applications of the technology.

METHODOLOGY

The event was executed in the form of a demonstration/pilot study by the inventor, Mr Danie Krügel. An expert-panel comprising 10 individuals was assembled for the event. Apart from the author and demonstrator, the remainder of the panel members were independent and have not been informed of the technology prior to the event. The panel comprised a range of experts including academics and scientists that specialize in fields related to the nature and application of the technology. The panel members are authoritative in their fields and without exception in possession of PhD qualifications while 4 are currently in middle-management positions. The panel members further boast

extensive subject and research-methodological experience and have cumulatively published hundreds scientific articles, attended and read papers at numerous scientific conferences and supervised many post-graduate students on masters and doctorate level. A number of the panelists are also NRF-rated researchers. The various fields of specialization included, but were not necessarily limited to: 1) Microbiology; 2) Food Science; 3) Biochemistry; 4) Biotechnology; 5) Molecular Biology 6); Physical Chemistry; 7) Physics; 8) Electronic Engineering; 9) Animal Science; 10) Soil and Plant Science; 11) Professional Ethics; and 12) Research Development

The compounds tested were selected on the basis of their contrasting molecular compositions as well as their links with specific disciplines. These included:

COMPOUND	TYPE	RELEVANCE	POSSIBLE APPLICATION
1) Diamond	Inorganic; simple carbon; solid	Represent inorganic substances of varying size	Mineralogy; geology; inorganic chemistry
2) Yeast <i>Saccharomyces cerevisiae</i>	Organic; single cell eukaryotic organism; powder form	Represent microbiota	Infection control; contamination; bioterrorism, classification; ecology
3) Human hair	Organic; multi-cellular eukaryotic/animal cells; organ	Represent higher-order life-forms, tissues and organs	Forensics; diagnostics; treatment
4) Leucemic blood	Organic; multi-cellular; blood (liquid)	Represent abnormal/defective cellular material	Pathology; diagnosis; treatment
5) Biopsy sample of cancerous animal tissue	Organic; multi-cellular	Represent abnormal/defective cellular material	Pathology; diagnosis; treatment

The shifting of the indicator/needle of the KTT apparatus over at least 90° towards the direction of a particular substance, as well as the repetitive movement of the needle in conjunction with the substance were regarded as a positive result. In addition, the tests were conducted at various distances (1-5 meters) as well as during different setups (different individuals holding the material, moving the material in different directions etc.). All demonstrations were done at least in triplicate.

RESULTS

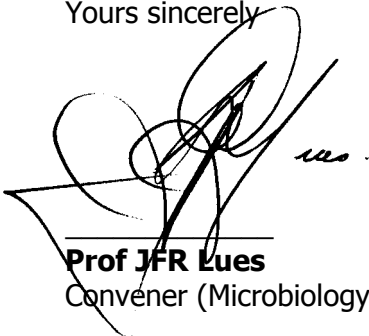
The KTT required 5-10 seconds to initialize after being adjusted to a specific component. After the initialization period, with all the 5 listed compounds and in all the mentioned scenarios the KTT successfully traced/picked up the mentioned substances. Not in one instance did the apparatus fail to point towards/follow the specific substrate, even following repetitive movement. Once tweaked towards a specific component, the apparatus did not appear to be influenced by other substrates in the vicinity thereof. Further, in the case of 2 components of the same composition, the KTT indicated the one in the closest proximity. The type of container and distance additionally did not seem to influence the effectiveness.

CONCLUSION

According to the above observations and assessing the feed-back of the panel, it was deduced that the KTT successfully and repetitively measured/detected the listed compounds, even at relatively small amounts. Thus, a definite mode of communication/interaction/transfer was apparent between the KTT and a specific substrate which appeared to be specific on atomic rather than molecular level. The technology further seemed effective over distances of centimeters to *circa* five meters (maximum distance tested during the current demonstration) although effectiveness over considerably longer distances has been claimed.

In conclusion it is deduced that, based on the mentioned observations the KTT utilizes a novel, although to date undefined technology to locate a wide range of substances over various distances. The discovery and possible application of the technique appears to be nothing less than revolutionary.

Yours sincerely

A handwritten signature in black ink, appearing to read 'JFR Lues', is written over a horizontal line. The signature is stylized and somewhat abstract, with large loops and a long horizontal stroke extending to the left.

Prof JFR Lues

Convener (Microbiology, Food Science)