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I have been evaluating and testing the SISMA™ platform since 2012 from the perspective of a government analyst required to research large volumes of disparate information and recognize 'signals' from 'noise' to create cogent and useful assessments for senior policymakers. This platform is unlike any I have encountered in government and military service and I sincerely believe that SISMA can serve as a 'thought engine' to supplement the multiple outdated search engines currently used by the intelligence and policy communities. Simply put, SISMA can help ameliorate our information-overload environment.

To set up today's problem, analysts are currently required to mine large amounts of data using complex Boolean search queries and constantly-running search profiles that, unless constantly tweaked, can return large amounts of irrelevant information. More broadly, these systems can find facts when inputted exactly, but are reflective of and perpetuated by the search bias of the analyst and cannot broaden perspective in any meaningful way. Keyword searches are impractical because the analyst must enter the right keywords to find reports containing relevant information, leading to confirmation bias. Since reports in these engines are full of synonyms and metonyms the analyst might not even consider at first, information is also being missed and time wasted.

Since humans generally think in terms that create shortcuts for understanding, such as metaphors, broad concepts and memes, not keywords, the impracticality to continue to search for information exclusively using keywords is clear. Most importantly, current search engines are incapable of searching for concepts or memes that analysts envision, those gut feelings and 'a-ha' moments that arise subconsciously. This is where SISMA really adds value by acting like a machine-subconscious, aiding an analyst's ability to break through their conscious mindsets and biases.

Through SISMA, analysts can test their assumptions and biases by researching a concept, meme or outcome they perceive. Ideas, no matter how abstract or ethereal, can be searched and verified against related topics or even different topic sets, broadening one's perspective immediately. SISMA does this by identifying themes in a report likely never imagined and allowing the analyst to check the theme elsewhere among different reporting streams. This capability has revolutionary implications for analysis. In a world of 'crowd wisdom', wicked problems and complex systems analysis – the ability for SISMA to cast such a wide net as to link problems across disciplines and lead analysts to conclusions in topic sets for which they originally were not searching necessarily will improve analytic quality, depth and breadth. Further, because of the diverse set of information sources currently resident within SISMA, it seems that creativity, memory and imaginative processes are enhanced.

Clearly, SISMA's ability to identify linked, but visually undetected themes, memes, emotions and ideas is wholly applicable to social network analysis and sentiment analysis. However, this is also useful to more traditional target sets. Adversaries perceive their world in the same general human terms and metaphoric constructs. SISMA helps to reduce mirror-imaging by expanding the analyst's own thought across a spectrum of media and diverse synonyms and metonyms. This saves energy expended on thinking about

the topic's word construction and if the topic has links to other disciplines. If no information is found, perhaps the assumption is incorrect and requires more scrutiny through structured analytic techniques.

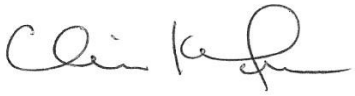
To illustrate a very brief example, a general meme was entered into the SISMA engine. The result from this query demonstrates that an analyst would spend hours to find information with these similar properties:

> The meme '**taking control + trapped**' resulted in this nuanced literary version. Note that the overall narrative of this piece (slightly redacted for brevity, noted by ellipsis (…)) relates to taking control of a populace and their inability to escape from it. Nowhere is 'taking control' or 'trapped' found in this piece, only the meme and emotion were captured. No preconceived notion of the result was contemplated when the search was undertaken. Underlined text is added for emphasis as that which directly corresponds to the meme of taking control:
>
> '…and therefore the first Founders and Legislators of Commonwealths… <u>whose ends were only to keep the people in obedience</u> … have in all places taken care; <u>to imprint in their minds a belief, that those precepts which they gave … might not be thought to proceed from their own device, but from the dictates of some God… that their Laws might the more easily be received</u>… Secondly… <u>to make it believed, that the same things were displeasing to the Gods, which were forbidden by the Laws</u>. Thirdly, to prescribe Ceremonies, Supplications, Sacrifices, and Festivals, <u>by which they were to believe, the anger of the Gods might be appeased</u> … <u>And by these, and such other Institutions, they obtained in order to their end … that the common people in their misfortunes, laying the fault on neglect, or error in their Ceremonies, or on their own disobedience to the laws, were the less apt to mutiny against their Governors</u>. And being entertained with the pomp, and pastime of Festivals, and public games, made in honor of the Gods, <u>needed nothing else but bread, to keep them from discontent, murmuring, and commotion against the State.</u>' (Thomas Hobbes, *Leviathan*, 1651, Chapter XII 'Of Religion').

With traditional keyword searches, this text may never have been found in any information source. The entire excerpt above is replete with themes regarding control.

In conclusion, it is my belief that SISMA is an extremely powerful, unique and revolutionary 'thought engine' tool for enhancing analytic forecasting. Its usefulness to intelligence analysts anticipating disruptive events, conducting long-term strategic forecasting and providing decision advantage to policymakers is profound. Continual usage of the SISMA engine likely will also train analysts to recognize their own thought patterns and think in faster, more diverse and innovative ways. I welcome the opportunity to participate in its implementation in the future.

Very Respectfully,



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