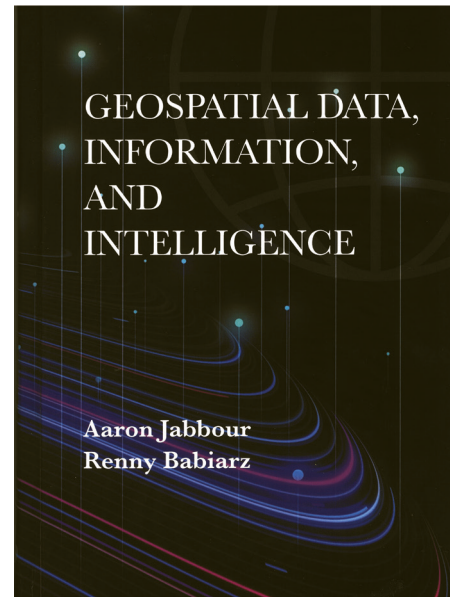


Rich in content and densely packed with information, this remarkably well-written and succinct book – only 229 pages long, should be essential reading for the layperson and practitioner alike. The title of the book is in and by itself an acknowledgement of the causality linking data, information, and intelligence - or knowledge. This first edition of the work represents an excellent primer for anyone who desires to apply geospatial intelligence (also known by its popular name of “GEOINT”) analysis to the tradecraft, in which it plays a leading and defining role. The central theme of the book is the conceptualization of human-based processes of geospatial observation, analysis, inference, and communication, and their application to “geospatial intelligence”, as defined on page 4 (“... a term that describes specialized collection, processing, analysis, production, and dissemination of Earth-referenced entities, events, and phenomena, usually by government entities.”).

It is necessary, however, to remind ourselves of the obvious and implicit subject matter of the book, embodied by the term tradecraft, which has a specific meaning and widespread usage within the intelligence community, and is defined elsewhere as: “the techniques and procedures of espionage” (<https://www.merriam-webster.com/dictionary/tradecraft>).” The term tradecraft appears prominently in the book, such as in Section 7.2 (“*Geospatial Analysis as a Profession: Imagery and Spatial Analysis Tradecraft*”), and subsections therein (Chapter 7 — “*The Skillset: Geospatial Analysis Practices*”). On page 120, the authors re-define the term, giving it a broader sense: “... *Tradecraft refers to the specific skills and practices required to work in a given job or trade, ...*”. The authors, do however, provide examples of *geospatial tradecraft* (pages 95-103), but paradoxically, the term – *sensu stricto* is not present by itself in the index. In essence, the authors’ meticulous and masterful exposition centers around the premise that the human being - with its attendant sensory perceptions, brain and mind is the main seat for the process of geospatial observation and analysis. In support of this view, however, the authors could have used an already existing term - “*wetware*” which is defined elsewhere as: “the human brain or a human being considered especially with respect to human logical and computational capabilities.” (<https://www.merriam-webster.com/dictionary/wetware>).

Once past the introduction (Chapter 1 — “*Introduction to the Geospatial Mindset, Toolset, and Skillset*”), in which they present the structure of their work and summarize the contents of the rest of the chapters, the authors identify the human mind as the seat for the analytical process, a central tenet and starting point as they embark on a deep exploration of the elements of human psychology relevant to making spatial thinking possible (Chapter 2 — “*The Location*



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Mindset”). The authors’ message is basically that the geospatial analytic tradecraft is the amalgamated process encompassing human psychology, a panoply of sciences - the cornerstones being geography, cartography, GIS, geospatial analysis, and communication. Uncompromising in its thorough and systematic layout and exposition of the vital role which principles and practices of geospatial intelligence and knowledge play in the process of tradecraft, the book is organized in ten chapters. Except for Chapter 1 and 10, all Chapters have a Conclusions section. All Chapters, except for Chapters 8 and 10 provide a manageable core of relevant references as a subsection to the Conclusions section. In a writing style which is appealing, clear, precise, and articulate, the authors present and illustrate specific

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techniques developed as part of the workflow required by the process of geospatial intelligence gathering. In-depth treatment is given to the principles and practices of intra-personal pondering of the geo-observational data through thinking and reasoning, the choice of modeling and visualization techniques, and generation of analytical results. The inter-personal communication principles and practices deal with how to communicate findings to peers and audiences, while documenting the associated hypotheses, assumptions, models, inference methodologies, and uncertainties.

Frequent examples of the application of geospatial observations, analysis and reporting to specific incidents and case studies are provided throughout, and terms associated with tradecraft and their acronyms are defined. Some examples are: *Pattern of Life* (Chapter 3 — “*The Geospatial Toolset*”) *Observation, analysis and communications* (OAC) (Chapter 4 — “*The Geospatial Skillset: Observation Principles*”); *Structured Analytical Techniques* (SAT) and the *Target Method* (Chapter 7 — “*The Skillset: Geospatial Analysis Practices*”); *Broad Area Search* (BAS) (Chapter 5 — “*The Geospatial Skillset: Observation Practices*”); Chapter 8 — “*The Geospatial Skillset: Communication Principles*”); *Structured geospatial observation techniques* (SGOT) (Chapter 9 — “*The Geospatial Skillset: Communication Practices*”); and *Denial and deception* (Chapter 6 — “*The Geospatial Skillset: Analysis Principles*”).

Focusing on geospatial skill sets, the authors give them distinct treatment depending on whether they are part of observation, analysis, or communication. Subsumed within each of these, principles and practices are treated separately in chapters 4 through 9. The authors present the Four Cornerstones Method (Location, Color, Shape, Context) which when applied to observations, is clearly based on photointerpretation (Chapter 5 — “*The Geospatial Skillset: Observation Practices*” but can also be applied to communication practices (Chapter 9 — “*The Geospatial Skillset: Communication Practices*”).

The topics explored are cast against a backdrop of modern developments such as the escalating and dramatic changes of the Information Age, including mention of the relevance and promise of the Geospatial Data Act of 2018. The authors provide an all-encompassing view of the principles and practices, resorting to abundant illustrations and examples, a few even steeped in historic tradition from the domains of science, geography, and spatial analysis. Such are: Galileo’s quote about the observational power granted to him by the use of the telescope effectively nullifying any wordy arguments about the nature of the Galaxy, which he inferred to be clusters of stars; John Snow’s cholera map given as

an example of superb contextual analysis in action, which resulted in drastic changes in the epidemiological mindset of his time; and Tobler’s Law regarding waning similarities between observed geospatial entities as distances separating them grow, a warning to analysts as they engage in BAS.

As they explore the relevance of Geographic Information Systems (GIS) is defined in (Chapter 3 — “*The Geospatial Toolset*”), the authors make the valid and often forgotten point that despite the ever-growing multitude of data, software, and hardware – or toolset, people and their attendant skill sets are a necessary and essential component of GIS (page 48; Section 3.7; “*The Importance of People in the Geospatial Toolset*”). The implication and message of this book is that – in the end, tradecraft is and will remain a human endeavor, regardless of the tools and resources brought to bear. As the authors best put it, “*Humans will remain the most important tool in the toolset, providing reason, nimbleness and mentorship in ways that computers will never provide*” (page 217; Chapter 10; “*Outlook*”).

We all should look forward to a needed and new edition of this book, in which the authors will hopefully incorporate the now pervasive plethora of geospatial artificial intelligence (geo-A.I.) toolsets, while giving them the proper and correct contextual placement in the process of geospatial information intelligence. Based on the developmental structure of this first edition, a treatment of the way these new geo-A.I.-based toolsets are co-evolving with and impacting human skill sets and communication is also to be expected. Hopefully, the focus will still be on the role of human intelligence as both the primordial source and location, and ulterior target of the geospatial tradecraft process.

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