

---

*International Forum*  
*Vol. 22, No. 1*  
*June 2019*  
*pp. 46-64*

**FEATURE**

## **Rethinking Triangulation: The Axial Model**

**Yaroslav Ovdienko**

**Abstract.** *Triangulation has been under a scrutinizing discussion for the last six decades. The dialog was drawn upon different argumentations and beliefs. However, in spite of various attempts to understand the nature and functionality of triangulation, some scholars agree that there is "a blank in the triangulation discourse and practice" (Denzin & Lincoln, 2018, p. 799). In other words, there is a need for "a clearer definition of when triangulation is indicated" (Denzin & Lincoln, 2018, p. 799). This theoretical paper does not claim to be an exhaustive answer for the indicated issue. Instead, it aims to contribute to the existing discussion by presenting an alternative conceptualization of the idea of triangulation using the concept synthesis methodology. This article starts with the biblical and philosophical considerations of triangulation. Then it proceeds with the construction of the axial triangulation matrix and, finally, the axial triangulation model.*

**Keywords:** triangulation, axial triangulation matrix, axial triangulation model, triangulation maximum, textual interview, textual observation, research credibility, research trustworthiness

### **Introduction**

Among prolonged engagement, persistent observation, peer debriefing, negative case analysis, and member checking, triangulation is one of the criteria of trustworthiness and credibility in the theory and practice of contemporary qualitative research (Denzin & Lincoln, 2018; Lincoln, 1985; Lincoln & Guba, 1986). Despite the idea that triangulation is not new in the research community, there is "a blank in the triangulation discourse and practice" (Denzin & Lincoln, 2018, p. 799); meaning, scholars need "a clearer definition of when triangulation is indicated [and when it is not]" (Denzin & Lincoln, 2018, p. 799). In this regard, the model of triangulation offered in this theoretical paper may represent an alternative

perspective on how triangulation can be understood. This discussion does not provide an exhaustive solution for the existing debates but may provide interesting considerations that can shed some light on theory and practice in the area of contemporary research.

The methodology of this theoretical paper is concept synthesis. Its purpose is “to develop or describe frameworks and models [. . .] from concepts that represent ordered information about attributes of one or more things that enables differentiation among them” (Kastner, Antony, Soobiah, Straus, & Tricco, 2016, p. 47). The concept, in this case, is triangulation that is represented by its constituents which can be described by their attributes. The traditional perspectives on triangulation, the biblical and philosophical views for example, are nothing else but the alternative descriptions of the concept in terms of its properties. In this regard, different approaches have different assumptions, justifications, and finally practical implementations. That is why the model presented in this paper has its own peculiarity.

The first section introduces the biblical idea of triangulation and its implications to further discussion over the idea. The second section outlines the philosophical approach to triangulation, looking at it from the ontological, epistemological, and axiological perspectives. Then, the third section presents the axial triangulation matrix that is based on the four main vectors such as sources of sense data, opportunities of knowing, number of entities, and research methods. The fourth section describes the traditional approaches to triangulation that have been developed for the last six decades. Finally, the fifth section offers the axial model of triangulation, presenting its usefulness, implementation, and relation to research rigidity.

### **The Biblical Idea of Triangulation**

The idea of triangulation is not something new that has been invented by contemporary scholars. It is well known to justify something, that there should be some proof like evidence, testimonies, or arguments. People have been using this fundamental principle since ancient times adjusting it to different areas of human life such as jurisprudence (Finkelstein, 2010). Going to the Bible, in the ancient book, the idea of triangulation can be distinctively seen throughout the sacramental writings of the Old and New Testaments (Hamel, 2005).

Looking into the Old Testament, one can see how jurisprudence was established at that time. For example, it is written that “at the mouth of two witnesses, or three witnesses, shall he that is worthy of death be put to death; but at the mouth of one witness he shall not be put to death” (Deut 17:6). Another similar text says that “one witness shall not rise up against a man for any iniquity, or for any sin, in any sin that he sinneth: at the mouth of two witnesses, or at the mouth of

three witnesses, shall the matter be established" (Deut 19:15). Clearly, there is a need of two or three witnesses to justify a death sentence.

In the New Testament, Jesus repeats this message. He teaches that "if he will not hear thee, then take with thee one or two more, that in the mouth of two or three witnesses every word may be established" (Matt 18:16). Apostle Paul takes this rule in his armory while going to the church of Corinth. "This is the third time I am coming to you," he writes, adding that "in the mouth of two or three witnesses shall every word be established" (2 Cor 13:1). It seems that the legal language of the Bible also speaks in terms familiar to scholars—triangulation.

The biblical triangulation, in addition to the requirement that something may be proven only by two or three witnesses, offers other requirements that further elaborate the idea. Besides the fact that "the scripture requires the evidence of two or three different witnesses" (Welborn, 2010, p. 208), as it indicated already, "the Deuteronomic rule demands, or at least, implies, the *simultaneous* appearance of two or three witnesses" (Welborn, 2010, p. 208). It seems that a justification provided by one person at a time is not enough, it is important to meet certain specifications such as the time condition.

The concept of biblical triangulation can be summarized as follows. First, it represents the ancient way of justification or investigation. Second, it has a methodological basis that reminds contemporary qualitative research. If several people gather together to witness a murder, for example, *there will be a number of witnesses who tell the story of the murder*. In this case, there is always (a) a media source (speech), (b) conceptualization (story), and (c) a number of entities (witnesses). The final summarizing element, (d) the method, can be derived from the previous three elements which represent the initial justification requirements. These four elements are discussed in detail in the section dedicated to the axial triangulation matrix, but in the following section, these items are deliberated from the philosophical perspective.

### **The Philosophical Idea of Triangulation**

The four elements that summarized the previous section may be interpreted from the philosophical point of view. In philosophy, metaphysics, epistemology, and axiology are the fundamental building blocks that deal with the most basic issues such as reality, truth, and value (Knight, 1992). It is well known that metaphysics concerns the nature of what exists and epistemology concerns the possibilities of knowing what exists (O'Brien, 2016). Axiology, in its turn, deals with ethics and aesthetics that reflect the total philosophy (Knight, 2016). All of them are interconnected and none of them can function separately from one another.

### **A Media Source**

The metaphysical format of triangulation rests on the idea that the data used in research is nothing else but the very substance of reality. From the quantum mechanics point of view, the world is composed of electrons which at the same time manifest themselves as both particles and waves, and the only difference between any object, in such a case, is a wave frequency (Dirac, 1967). Thus, based on the spectrum which the objects appear, the researcher deals with the different media that artfully represent various phenomena. The conventional experience of interviewing, reading, listening, observing, and doing other research-related activities in one way or another is based on the representations of the matter through vision, hearing, smell, taste, touch, balance, temperature, proprioception, pain, or other unknown yet senses (DeSalle & Wynne, 2018). This is why the first element of triangulation, a *media source*, is nothing but what one experiences, what is real, what is there in the world, and what philosophers know as ontology. Yet, the media source is just an informational carrier, the mean of conveying the message represented at various levels of conceptualization, starting from the simplest signals to the highest-order abstractions.

### **Conceptualization**

The epistemological format of triangulation rests on the idea that the ontological quantum reality can be understood through the different levels of conceptualization such as unconscious signals, conscious information, and abstract knowledge. Looking at this from the point of view of quantum mechanics, for instance, one may find that the real world is a quantum information (Verlinde, 2017). However, it fits the human senses and eventually it is graspable by a researcher.

The quantum information can take different forms or levels of conceptualization. The first level is the raw data that is usually unconsciously registered by human nature. Such things like heat, sound, or matter are just examples of the different types of waves with various frequencies. The second level of conceptualization can be represented by the informational structure of higher order built upon the simplest informational elements. In this way, the sound put in a pattern makes sense for the birds when they communicate and humans can understand that the birds sing. Moving further, the human voice can convey coded knowledge. For example, nobody can understand when babies talk, or Christians pray “in the Spirit” (1 Cor 14:16), but only when it is patterned according to the rules of conceptualization inbuilt in human language. Higher orders of conceptualization may be represented by more abstract concepts.

### **A Number of Entities**

Axiology is the philosophical component that stands for the value of the phenomenon. In this regard, as in any valuation, there is always a valuator with his or her tools of valuation. The greater the experience is, the better the objective valuation can be. Therefore, the most objective valuation is expected to be in the state of God, the Creator of *everything*, since He is the One who lacks no knowledge and wisdom with regards to reality and all of its dimensions. Only God can understand the fullness of reality and the values inherent in it. This is the state of absolute objectivism, of which Eisner (2017) talks in *The Enlightened Eye*. Although any research process "involves thinking God's thoughts after him analogically" (Poythress, 2014, p. 123), the "understanding of God never becomes comprehension—we do not understand God completely, nor do we understand my apple comprehensively, to the very bottom" (Poythress, 2014, p. 181). It means that humans cannot value reality in full as they do not know it in full. An axiological account of reality pertaining to humans is only possible in the state of the *transactive account*, which is always somewhere in between pure subjectivism and pure objectivism (Eisner, 2017). By increasing the number of sources of knowledge, a person can extend his or her understanding of reality, and therefore, enhance the axiological facet of the worldview. The opposite is also true: reducing the amount of experience, or a number of entities, one moves to the more reductionistic level of understanding of reality. In this way, appreciation of reality depends on a number of situations experienced in reality. Different people have different axiology since they have different experiences and therefore, different worldviews (Woods, 1992). Yet, by increasing the number of data sources, whether it is an experience or a number of respondents, *quantity transforms into quality* and affects axiology. The more entities or experiences one acquires, the more profound the axiology one achieves. In such a way, the more sophisticated axiology is supposed to be grounded in greater wisdom. Therefore, only God can fully understand and know the exact meaning of the truth, beauty, and love.

### **Methodology**

The interplay of ontology, epistemology, and axiology, thus, results in methodology. This idea is not foreign to qualitative research as there have been many debates about the influence of philosophy on research methodology. In *Research and the Teacher*, this idea is offered as a process in which "ontological assumptions will give rise to epistemological assumptions which have methodological implications for the choice of particular data collection techniques" (Hitchcock & Hughes, 1989/1995, p. 21). A similar thought is proposed by O'Donoghue (2007) who believes that underlying research paradigms influence the theoretical position, methodology, and finally, methods. Talking about the same thing, Crotty (1998) suggests that the process of research is also made of four

elements: epistemology, theoretical perspective, methodology, and methods. A similar concept was written by Grix (2002), who thinks that ontology, epistemology, methodology, methods, and sources are "the building blocks of research" (p. 180). Some other authors also talk about "the relationship between ontology, epistemology, methodology, and methods" (Coe, Waring, Hedges, & Arthur, 2017, p. 16). It seems that the idea of philosophical foundations with regards to research methodology and eventually to methods, does not only indicate the holistic approach to research design in general but may be linked with the axial triangulation matrix.

### **The Axial Triangulation Matrix**

The biblical perspective on triangulation was represented by (a) the media source (speech), (b) conceptualization (story), (c) a number of entities (witnesses), and (d) the method as a composition of three of them in terms of the procedure and justification requirements. The philosophical perspective on triangulation is similar with the biblical but it is discussed in the language of ontology, epistemology, axiology, and methodology. It is important to discuss the meaning of both the biblical and the philosophical elements from the perspective of axial triangulation matrix.

The axial triangulation matrix is the basic matrix in the triangulation design. It gives birth to other triangulation matrices that are traditionally used for enhancing research credibility and consequently, trustworthiness. Thinking about the dimensionality of the axial triangulation matrix, it is three-dimensional and it is represented by such axes as a media source, conceptualization, number of entities, and method. Graphically, it may be illustrated as a 3D chart (Figure 1). In this case, if the media source is audio, the level of conceptualization is knowledge, and the number of entities is one, then the research method is nothing else but an interview.

#### **The Axis of Media Source**

The first vector of the matrix is the media source (Figure 2). As it was said in the ontological representation, there are a few media sources that are basically registered by human sensation (DeSalle & Wynne, 2018). From the Aristotelian point of view, there are only five senses (hearing, smelling, seeing, tasting, and touching). The contemporary scientists however, list out 33 discrete senses. In terms of triangulation, the implication is simple: get all you can!

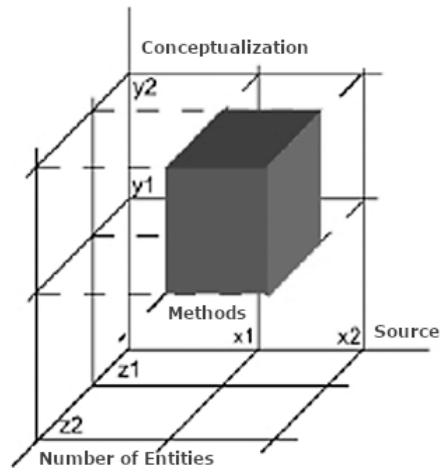


Figure 1. The structural representation of the axial triangulation 3D matrix.

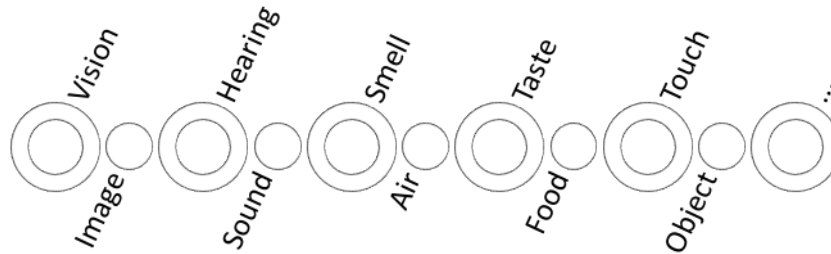


Figure 2. The axis of human sensation.

### The Axis of Conceptualization

The second axis of the axial triangulation matrix is the level of conceptualization. The main idea may be illustrated by the DIKW pyramid (Rowley, 2007). It consists of data, information, knowledge, and finally, wisdom (Figure 3). This pyramid is aligned with the epistemological elaboration expressed in the previous section. Here is a nice illustration of the DIKW pyramid that is connected to the Bible story in which the wicked king of the ancient Babylon, Balthasar, received the unknown words written on the wall by the hand of God (Dan 5:25-28). Looking at the ancient text without having any idea of the meaning of the words—it is just about colors and shapes—the king gets in touch with sense experience or *raw data*. The second step is understanding the translation of the words or becoming equipped with the necessary vocabulary. In the Bible story, God explained the words written on the wall to Daniel, His prophet who actually

received the exact translation. Yet even at this stage, the text may not make much sense for an outsider who is not immersed in the context and, that is why it represents *information*. The real meaning of the words could be only understood in the context. As Daniel considers the context, the words yield to a higher conceptualization of the writings that is *knowledge*. The final stage is the decision-making act based on the acquired context knowledge—*wisdom*.

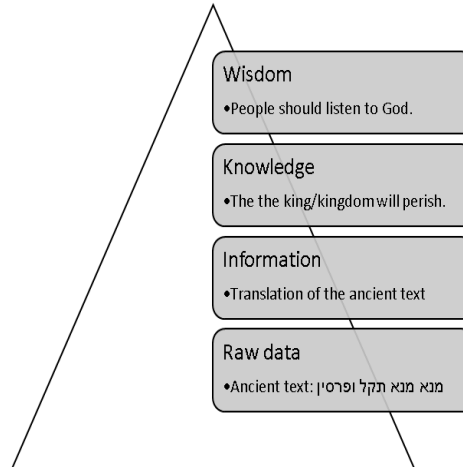


Figure 3. The DIKW model for knowledge management.

Another way of looking at the axis of conceptualization is to approach it from the everyday practical perspective. Raw data can be illustrated by a baby's cry at night while the mother is sleeping. At the very first second, the mother does not understand what is going on, but she immediately wakes up because of the body reactions since the body registers and translates the raw data. Then, the mother gets the idea that the baby is crying for some reasons, but it is still vague. When the mother observes the baby, she recognizes that the baby wetted itself and needs help. Finally, the mother makes a decision to change the wet diaper and calm the baby. This is an illustration of the four levels of conceptualization in real life when the mother-researcher first registers the initial signals, consciously recognizes some information, attaches it to the context (coding process), and finally makes a decision. The decision-making part is the action that is the implementation and therefore, it does not account for the levels of conceptualization.

### The Axis of the Number of Entities

The final axis in the axial matrix of triangulation is the axis of the number of entities. On the one hand, the number of entities may change the research method (i.e., from interview to focus group) by adding research participants; on the other *June 2019, Vol. 22, No. 1*



hand, it makes the study more rigid. The rigidity of the study is based on the idea that quantity transforms into quality. The more sources are explored, the better perception about the studied phenomenon is (Prov 13:10).

### The Research Method

The research method is the derivative of the previous three axes of the axial triangulation matrix. A media source, a level of conceptualization, and a number of entities all together result in a method. For example, mixing a sound together with information will yield to observation: If a researcher approaches a criminal district and hears the sound of shooting it can be registered. This sound does not convey any conceptualized or patterned knowledge, but it simply gives an idea of the shooting. When one combines a sound with knowledge, it can stand for an interview if the number of entities is one and it can stand for a focus group if the number of entities is six. The combination of an image and information can be a picture of an ecological disaster observed in the field. Yet, the combination of the image together with the knowledge represents a document as any text is a visual of certain concepts. The list of the examples may be continued and a creative researcher may find other combinations that would represent other research methods. A short list of some possible outcomes of some combinations is shown in Table 1.

Table 1

*Research Methods Derived from the Combinations of the Elements of Triangulation Axes*

Research Method	Combination
5 interviews	= (knowledge AND sound) × 5
1 focus group	= (knowledge AND sound) × 6
27 documents	= (knowledge AND image) × 27
4 observations	= (information AND (image OR sound OR smell OR food OR some object)) × 4

### The Traditional Idea of Triangulation

The initial idea of research triangulation was developed in the 1950s. It was expressed in a series of articles and books dedicated to different matters: *A Study of Leadership Among Submarine Officers* (Campbell, 1953), *Leadership and its Effect*

*International Forum*

upon the Group (Campbell, 1956), *The 'Mental' and the 'Physical'* (Feigl, 1958), and *Convergent and Discriminant Validation by the Multitrait-multimethod Matrix* (Campbell & Fiske, 1959). A bit later, it was conceptualized in *The Research Act: A Theoretical Introduction to Sociological Methods* (Denzin, 1970). The concept of triangulation has been under study for more than 60 years.

According to the *SAGE Handbook of Qualitative Research*, "the concept of triangulation means that an issue of research is considered—or, in a constructivist formulation, is constituted—from [at least] two points or perspectives" (Denzin & Lincoln, 2018, p. 779). This idea is very much aligned with the biblical version of triangulation discussed earlier. Despite the seeming simplicity in the definition, there have been many arguments related to triangulation. Basically, the arguments were about the purpose of triangulation: whether it informs the truthfulness or merely adds range and depth, but not accuracy (Fielding & Fielding, 1986).

### **Denzin's Triangulation**

The first promotion of triangulation was started by the protagonists of Denzin's conceptualization that was established in 1970. Triangulation at that time was treated as a strategy of validation and was represented by data triangulation (combination of various data sources), investigator triangulation (employment of various observers and interviewers), theory triangulation (using multiple perspectives toward approaching data), and methodological triangulation that was either between methods (i.e., interviews and observations) or within methods (different types of interviews or questionnaires) as stated by Denzin (1970). The most popular and progressive type of triangulation that has been used until now is the methodological triangulation which "involves a complex process of playing each method off against the other so as to maximize the validity of field efforts" (Denzin, 1970, p. 304). The idea of triangulation as a methodological choice was speculated by the critics of Denzin to raise the question about mix-methods that would oppose the initial concept and increase further controversies and debates.

### **Denzin's Sophisticated Rigor**

The second attempt to promote the idea of triangulation was made as an appropriate reaction to the appearing critics. In his later publications, the author of the methodological triangulation, by trying to avoid any tension in the research society, introduced the updated version of the discussed concept that he labeled as "sophisticated rigor" (Denzin, 1989):

Interpretive sociologists who employ the triangulated method are committed to *sophisticated rigor*. [. . .] The phrase *sophisticated rigor* is intended to describe the work of any and all sociologists who employ multiple methods, seek out diverse empirical sources, and attempt to develop interactionally grounded interpretations. (pp. 234-235)

### Crystallization

Later on, another diplomatic version of triangulation came to life, the so-called crystallization—the replacement of classic triangulation with the similitude of prism and the crystal. It was destined to combine methodological approaches and forms of validities (Richardson, 2003; Saukko, 2003). Eventually, it developed into the multi-genre idea of crystallization (Ellingson, 2008):

Crystallization combines multiple forms of analysis and multiple genres of representation into a coherent text or series of related texts, building a rich and openly partial account of a phenomenon that problematizes its own construction, highlights researchers' vulnerabilities and positionality, makes claims about socially constructed meanings, and reveals the indeterminacy of knowledge claims even as it makes them. (Ellingson, 2008, p. 4)

### Weak and Strong Programs

To resolve the great triangulation controversy, there has been an attempt to present a so-called *weak and strong programs* of triangulation (Flick, 2011). The weak program consists of the three basic premises or, better to say, attitudes to triangulation namely, triangulation is merely a *criterion* in qualitative research (Lincoln & Guba, 1985), it is an *assessment strategy*, and finally, it is a *pragmatic combination* of multifarious research methods (Jick, 1979; Tashakkori & Teddlie, 2003). The strong program of triangulation postulates that triangulation is the source of *extra knowledge* or it is an *extension of a research program* (Flick, 1992). In the first case, it stands as a revelatory tool (vs confirmatory validation tool); in the second case, it is an opportunity to continue the same study from another methodological view. Basically, if combined and reconciled, both weak and strong approaches may lead to a more systematic, inclusive, and comprehensive way of treating the idea of research triangulation.

### The Final Definition

It took several decades to debate over the issue, its development, critiques, reframing, and understanding. It seems that the discussion has been concluded by some overarching definitions. A nice attempt was made in 2007 in the book that speaks about research quality (Flick, 2007). The same idea was repeated in the SAGE handbook (Denzin & Lincoln, 2018):

Triangulation means that researchers take different perspectives on an issue under study or—more generally speaking—in answering research questions. These perspectives can be substantiated by using several methods and/or in several theoretical approaches. Both are, or should be,

*International Forum*

linked. Furthermore, it refers to combining different types of data on the background of the theoretical perspectives, which are applied to the data. (p. 41)

This definition may remind a researcher of the holistic model of triangulation that will be discussed in the next section. Indeed, this definition also speaks about such elements as data, knowledge, amount, and methods. In this regard, the following section is dedicated to an integrative approach that has been evolving since the beginning of discussion over the concept of research triangulation.

### The Axial Model of Triangulation

The above-discussed axial matrix of triangulation demonstrated the idea where the three aforementioned axes such as the media source (S), conceptualization (C), and numbers of entities (N) eventually converge to the axis of research methods (M) such as interviews, focus groups, observations, document analysis, etc. Therefore, the axial model of triangulation illustrated in Figure 4 is represented in terms of the axial matrix of triangulation.

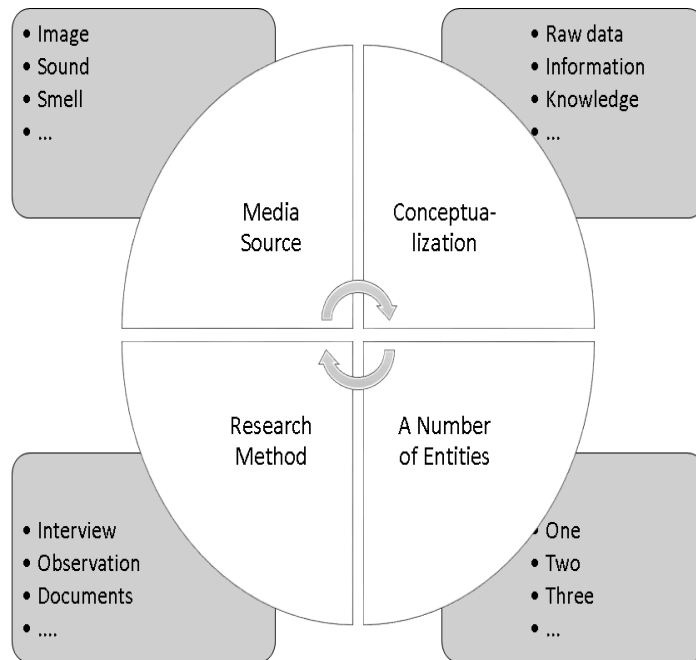


Figure 4. The axial model of triangulation.

This is the integrative or holistic approach to the fundamental concept of triangulation based on the aforementioned ideas. In such a way, this model is the contribution to the 60-year debates over the triangulation issue.

### **The Context of the Axial Model**

This representation, in a certain way, is connected to the overall ideas discussed earlier. The axial model of triangulation is grounded in the biblical and philosophical structures. It is also linked to the traditional concept having some similarities and differences. Talking about the similarities, the axial model as the traditional one also considers data triangulation within the same method. In this case, it refers to the axis of the number of entities (i.e., different documents or interviews). With regards to method triangulation, it matches the traditional perspective, too. However, theoretical triangulation in the axial perspective is not supported as in the traditional one. The reason is that theoretical triangulation, as it has been debated in the previous section, is more related to mixed methods than to triangulation. In addition to the traditional understanding of triangulation, axial triangulation provides a deeper interpretation of what is going on in the *internal kitchen* of the triangulation mechanism showing how it works.

### **The Holism of the Axial Model**

The idea of holism, integration, and connectedness is the underlying principle of the axial model. It was clear from the discussion of the 3D matrix that all the research methods emerge at the intersection of the media sources, levels of conceptualization, and a number of entities. Moreover, it is important to admit that the vice versa approach is also true. Meaning, that the research methods also define the data a researcher works with, the levels of conceptualization, and the number of respondents. Any axis taken from the integrative model always depends on the other three axes since any research subject(s) or participant(s) have their ontological, epistemological, axiological, and methodological representations. In other words, any subject(s) or participant(s) have their media source, level of conceptualization, number of entities, and method. If one takes a document, for instance, it is represented visually, it provides knowledge (conceptualized information), has its quantity (in this case 1), and may be approached through document analysis. Thus, the law of integration and connectedness is inherent in the axial triangulation model.

### **The “So What?” Question**

An important question that should be asked now is “So what?”. What value does the axial triangulation model have for research? Why it is so important? Why does it matter? What difference does it make? Philosophically-speaking, it is always good to make sense of the reality and the concept of triangulation is not an

*International Forum*

exception from this rule. That is why, it may be also helpful to understand the nature of triangulation, the elements it consists of, and the practical utility of such understanding. For example, the most popular way of using triangulation is to bring into the research picture a set of research methods such as interviews, focus groups, documental inquiries, and observations. Many researchers do not bother with the depth of such a procedure, they just do their job in a traditional way. In most cases, it works fine; yet, in some cases, it is not possible to have all of the conventional triangulation elements. What should the researcher do in such a situation? How should he or she behave? Is it a black box now?

### **The Substitution of Methods**

The axial approach to triangulation may open the black box and allow scholars to be more inclusive and flexible in doing research. For example, in the situation when a scholar cannot physically move to the place to interview people or to do a field observation, but the only available source is represented by documents, one may think about the axes. Thus, looking at the axial triangulation model a researcher may see that the difference between documents and interviews is not crucial. They are similar at the level of conceptualization, yet different in the type of a media source. In this case, the researcher can admit that the documents are nothing else but *textual interviews* conducted in a particular time and particular context. To put it simply, it is okay to go to the library and study the documents or, in other words, nontechnical literature (Strauss & Corbin, 1990), treating it as a social researcher would treat interviews. Regarding such research method as observation, it is useful to know that the historical events can also be observed through the eyes of other people. In this case, one may talk about *textual observation*.

The thought of the substitution of research methods was implicitly expressed in grounded theory, but it has not become widespread in other types of qualitative research. In *Qualitative Analysis for Social Scientists*, Strauss (1987) says that in "some kinds of library research, the researcher will even use the library much like an ethnographer, deciding upon which shelves to find the data sources (books, periodicals), and like the ethnographer happily coming upon fortuitously useful data" (Strauss, 1987, p. 26). A bit later, Strauss (1987) continues that in this case, the researcher can take advantage of "the use of published biographies to supplement a series of interviews" (p. 27), in such a way, supporting the idea of a textual interview. Other authors who are talking about the issue of studying a context from the hermeneutical perspective, claiming that "hermeneutics focuses on interaction and language; it seeks to understand situations through the eyes of the participants [emphasis added]" (Cohen, Manion, & Morrison, 2017, p. 52). In this case, hermeneutics can be labeled as a textual observation.

Would such *fancy research methods* be of the same value as conventional interviews or conventional observations? There is a well-elaborated answer to this question provided by the proponents of qualitative research and the founders of grounded theory (Glaser & Strauss, 2006):

Every book, every magazine article, represents at least one person who is equivalent to the anthropologist's informant or the sociologist's interviewee. In those publications, people converse, announce positions, argue with a range of eloquence, and describe events or scenes in ways entirely comparable to what is seen and heard during field work. The researcher needs only to discover the voices in the library. (Glaser & Strauss, 2006, p. 163).

Thus, the researcher needs to understand that the difference between document analysis and analysis of the transcripts from a set of interviews may be roughly compared with the difference between a set of interviews and a focus group. There is still a difference, but it is not crucial, it is a subject for consideration and substitution in cases when it is impossible to have a face-to-face interview (i.e., hostile environment, historical data). Even the data from observation can be collected through the eyes of other people such as historians. In some cases, it may be even better as writing documents usually require more considerations than giving interviews. Even the follow-up interviews can be realized by scrutinizing the text in order to get the meaning.

### **The Rigidity of Research**

The rigidity of research should not merely depend on the standard expectation of the research committee: to provide a triangulation matrix that consists of interviews, focus groups, observations, and other methods. The rigidity of research in terms of triangulation should be more associated with the proportion of what is possible to do in a particular research context and what has been done. In other words, if there are five different approaches to how the study can be triangulated, including different media sources, levels of conceptualization, and a number of participants or research objects, all of them should be used to get the *triangulation maximum*. In cases where triangulation is limited due to some physical restrictions, all available axial triangulation elements should be employed, too. For example, if there is an empirical study of a historical text and there is lack of ontological and epistemological triangulation (types of media sources and levels of conceptualization), the textual interview and textual observation strategy can be quite useful. The types of documents may vary; thus, providing in such a way the traditional data triangulation. Such an approach fulfills the task and contributes to the study. Knowing that there is always a minimum and maximum level of research rigidity in terms of triangulation, the research should use the simplest and the most practical approach: Get all you can!

### Conclusion

This theoretical work aimed at looking at the concept of triangulation from the axial point of view while trying to grasp the most basic elements or axes of triangulation. The foundation for this approach was Biblical and philosophical perspectives. These fundamentals led to the development of an axial triangulation matrix that corresponds to the axial triangulation model. The axial triangulation model was compared to the traditional and contemporary understanding of the topic and later on was interpreted in terms of its usefulness, implementation, and research rigidity.

### References

- Campbell, D. (1956). *Leadership and its effects upon the group*. Columbus, OH: Ohio State University Press. Retrieved from <https://books.google.com.ph/books?id=pTgNAQAAMAAJ>
- Campbell, D. (1953). *A study of leadership among submarine officers*. Oxford, England: Ohio State University Press.
- Campbell, D., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56(2), 81.
- Coe, R., Waring, M., Hedges, L. V., & Arthur, J. (2017). *Research methods and methodologies in education* (2nd ed.). Los Angeles, CA: Sage.
- Cohen, L., Manion, L., & Morrison, K. (2017). *Research Methods in Education* (8<sup>th</sup> ed.). London, UK: Routledge
- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. London, Thousand Oaks, CA: Sage.
- Denzin, N. K. (1970). *The research act: A theoretical introduction to sociological methods*. New York, NY: McGraw-Hill.
- Denzin, N. K. (1989). *The research act: A theoretical introduction to sociological methods* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2018). *The SAGE handbook of qualitative research* (5th ed.). Los Angeles, London, New Delhi, Singapore, Washington DC, Melbourne: Sage.
- DeSalle, R., & Wynne, P. (2018). *Our senses: An immersive experience*. New Haven, CT: Yale University Press.



- Dirac, P. (1967). *The principles of quantum mechanics* (4th ed.). Oxford, UK: Clarendon.
- Eisner, E. W. (2017). *The enlightened eye: Qualitative inquiry and the enhancement of educational practice*. New York, NY: Teachers College Press. Retrieved from <https://ebookcentral.proquest.com/lib/gbv/detail.action?docID=4843048>
- Ellingson, L. L. (2008). *Engaging crystallization in qualitative research: An introduction*. London, UK: Sage.
- Feigl, H. (1958). The 'mental' and the 'physical'. *Minnesota studies in the philosophy of science*, 2(2), 370–497.
- Fielding, N., & Fielding, J. (1986). *Linking data* (v.4). London, UK: Sage.
- Finkelstein, S. M. (2010). A tale of two witnesses: The constitution's two-witness rule and the Talmud Sanhedrin. *Litigation*, 36(4), 13–17. Retrieved from <http://www.jstor.org/stable/25801813>
- Flick, U. (1992). Triangulation revisited: Strategy of or alternative to validation of quantitative data. *Journal for the Theory of Social Behaviour*, 22, 175–197.
- Flick, U. (2007). *Managing quality in qualitative research: The Sage qualitative research kit*. London: Sage.
- Flick, U. (2011). Mixing methods, triangulation, and integrated research: Challenges for qualitative research in a world of crisis. In N. K. Denzin & M. D. Giardina (Eds.), *Qualitative inquiry and global crises*, 132, 132–152. Walnut Creek, CA: Left Coast.
- Glaser, B. G., & Strauss, A. L. (2006). *The discovery of grounded theory: Strategies for qualitative research*. New Brunswick, NJ: Aldine.
- Grix, J. (2002). Introducing students to the generic terminology of social research. *Politics*, 22(3), 175–186. doi:10.1111/1467-9256.00173de
- Hamel, C. (2005). *The Book: A history of the Bible*. London: Phaidon Press.
- Hitchcock, G., & Hughes, D. (1995). *Research and the teacher: A qualitative introduction to school-based research* (2nd ed.). London, New York: Routledge.
- Jick, T. D. (1979). Mixing qualitative and quantitative methods: Triangulation in action. *Administrative science quarterly*, 24(4), 602–611. doi:10.2307/2392366
- Kastner, M., Antony, J., Soobiah, C., Straus, S. E., & Tricco, A. C. (2016). Conceptual recommendations for selecting the most appropriate knowledge synthesis method to answer research questions related to complex evidence. *Journal of Clinical Epidemiology*, 73, 43–49.

- Knight, G. R. (1992). Philosophy: The most useful of all subjects. *The Journal of Adventist Education*, 54(3), 153–155.
- Knight, G. R. (2016). *Educating for eternity: A Seventh-Day Adventist philosophy of education*. Berrien Springs, MI: Andrews University Press.
- Lincoln, Y. S. (1985). Naturalistic inquiry. *The Blackwell Encyclopedia of Sociology*.
- Lincoln, Y. S., & Guba, E. G. (1986). But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. *New Directions for Program Evaluation*, 30, 73–84. doi:10.1002/ev.1427
- O'Brien, D. (2016). *An introduction to the theory of knowledge* (2nd ed.). Chicester, UK: Polity Press.
- O'Donoghue, T. A. (2007). *Planning your qualitative research project: An introduction to interpretivist research in education*. London, New York: Routledge.
- Poythress, V. S. (2014). *Redeeming philosophy: A God-centered approach to the big questions*. Wheaton, IL: Crossway.
- Richardson, L. (2003). Writing: A method of inquiry. *Turning points in qualitative research: Tying knots in a handkerchief*, 2, 379.
- Rowley, J. (2007). The wisdom hierarchy: Representations of the DIKW hierarchy. *Journal of information science*, 33(2), 163–180.
- Saukko, P. (2003). *Doing research in cultural studies: An introduction to classical and new methodological approaches. Introducing qualitative methods*. London, UK: Sage.
- Strauss, A. L. (1987). *Qualitative analysis for social scientists*. Cambridge: Cambridge University Press.
- Strauss, A. L., & Corbin, J. M. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage Publications.
- Tashakkori, A., & Teddlie, C. (2003). The past and future of mixed methods research: From data triangulation to mixed model designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social & behavioral research*. Thousand Oaks, CA: Sage.
- Verlinde, E. (2017). Emergent gravity and the dark universe. *SciPost Physics*, 2(3), 16.
- Welborn, L. L. (2010). "By the mouth of two or three witnesses": Paul's invocation of a Deuteronomic statute. *Novum Testamentum*, 52(3), 207–220. Retrieved from <http://www.jstor.org/stable/25750731>

Woods, P. (1992). *Symbolic interactionism: Theory and method*. In M. D. LeCompte, W. L. Millroy, & J. Preissle (Éds.), *The handbook of qualitative research in education* (pp. 337-404): San Diego, CA: Kluwer

*Yaroslav Ovdienko, MS in Applied Mathematics  
PhD Student, Education, Curriculum and Instruction  
Adventist International Institute of Advanced Studies  
Silang, Philippines  
ovdienko@aiaas.edu*