When the penny drops: Reframing under stress and ambiguity

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14. ABSTRACT
This report results from a contract tasking University of Haifa. This research studied the phenomenon of "penny dropping," i.e., replacing one conceptual frame that informs understanding and guides action by another by investigating how officers and soldiers in the Second Lebanon War reframe from an initial erroneous conception of their situation to a more accurate one under stress and ambiguity. Official and journalistic post-war inquiries indicate that the failure of the Israel Defense Force (IDF) in the second Lebanon War, in despite of considerable superiority in size and technology, can be largely attributed to its Chief of General Staff, Lt. General Halutz's failure to reframe on time: Contrary to his conception that the IDF was involved in an 'operation' that could be won with an air-based strategy, the IDF was actually engaged in a war that required large scale ground operations (for which it was ill prepared (Lipshitz, 2008 a). In contrast, incidental reports indicate that on the ground officers and soldiers realized, sometimes quite quickly, that 'this was not what we have planned or were led to expect.' The research reported here used a Naturalistic Decision Making methodology to understand how these individuals managed to reframe successfuly in conditions marked by high stress and ambiguity. A model integrating three areas, sensemaking, reframing, and decision making was developed in a grounded methodology in the first phase of the study, and validated and elaborated to include insight in the second phase of the study. The model distinguishes between three different processes of framing and reframing (instant, gradual, and epiphany) and specifies eight different barriers to reframing and their potential solutions.

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When the penny drops: Reframing under stress and ambiguity

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ABSTRACT

This research studied the phenomenon of "penny dropping," i.e., replacing one conceptual frame that informs understanding and guides action by another by investigating how officers and soldiers in the Second Lebanon War reframe from an initial erroneous conception of their situation to a more accurate one under stress and ambiguity. An SRDM model integrating three areas, sensemaking, reframing, and decision making was developed in a grounded methodology in the first phase of the study, and validated and elaborated to include insight in the second phase of the study. The SRDM model distinguishes between three different processes of framing and reframing (*instant, gradual,* and *epiphany*) and specifies eight different barriers to reframing and their potential solutions.

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INTRODUCTION

The present research was motivated by the second Lebanon War which began on July 12, 2006 and progressed in a fashion and concluded, far longer than expected, (as wars tend to do) more than a month later, with a dismal outcomes that literally smashed expectations all the way from the very top – Israel's government, down to the IDF General Staff and its Northern Command, on to the commanders and soldiers of the field units who had actually engaged with the Hezbollah, to finally, the civilian population, i.e., the "men & women in the street". In all these diverse groups distressed members people asked themselves and one another "How could this happen? What went wrong? Why did the Chief of General Staff (COGS) – taking the government with him - fail to see that the IDF was not engaged in a relatively restricted operation that could be handled solely by the Air Force, but a "proper" war with all the attendant implications (enlisting reserve units & opening emergency stockpiles required for a large scale ground operation in Lebanon)?

The purpose of the research was to study the experience of "penny dropping," namely how officers and soldiers who participated in the Second Lebanon War succeeded where the IDF's Chief of General Staff had failed - to reframe an erroneous mental model under stress and uncertainty, not necessarily to understand that they were involved in something more similar to a full scale "war" than to an isolated incident or operation, but any successful change from Frame *A* that guided their action which proved to be inaccurate to a more valid Frame *B*.

Consistent with this objective, the three concepts that drove the inductive analysis of the transcribed interview protocols were *sensemaking frames, and reframing*, on which there exists considerable theoretical and empirical literature that will not be

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reviewed here. Thus, the next paragraphs cover only their basic conceptual underpinnings.

Sensemaking

Sensemaking is defined as ***a schema driven process whereby people make sense of their situations by constructing mental models that represent them and guide their actions in them***, consistent with Leedom (2001), Phillips, Rall, & Peluso, (2007), and Weick (1979), and linking sensemaking with Schema Theory, Script Processing (Rumelhart, 1990), and Cohen & Lipshitz (2011), and the Tri-modal Theory of Decision Making (Cohen & Lipshitz, 2011).

Nature and attributes of sensemaking

Leedom (2001) distinguished between four different research perspectives (or research streams) on sensemaking of which two, the *individual* and *organizational* perspectives are relevant for the present purposes. Leedom (2001), defines sensemaking as "the process of creating and maintaining situation awareness" thereby couples sensemaking at the individual level tightly with Endsley's (2000) concept. Based on a cognitive task analysis of intelligence analysts, Pirolli, & Card (n.d.) developed a bottom up empirical model of individual sensemaking in which the process is construed as cycles of learning consisting of information gathering, ordering or representing it in some fashion in order to derive an insight, and finally preparing it for communication to a client. Throughout this process hypotheses are generated and tested, and data that do not fit the emerging meaningful pattern are screened until a final sufficiently coherent "story" is obtained.

Karl Weick (1979; 1995) is the most influential and best known theorist on sensemking at the organizational level and among decision researchers. Weick did not formulate a tightly structured formal or proposition-based theory, but rather, a rich,

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evocative, and thought provoking discursive theory that defines and elaborates the attributes of sensemaking. Leedom (2001, p. 10) aptly summarized Weick's seminal contribution as that of providing "a comprehensive discussion of the social dynamics within an organization that lead to the creation of situational understanding and direction (Weick, 1995). In this work, Weick begins with a multitude of definitions applied to sensemaking in the social science literature and then proceeds to develop a number of basic properties of this process.

Five of the sensemaking attributes identified by Weick are particularly relevant for the present study:.

1. *Sensemaking is a process of uncertainty reduction whereby sensemakers impose univocal (definite, unambiguous interpretations) on multi-vocal (vague, ambiguous) sense-data which they select from the environment.* The three phase sensemaking process is a variant of Darwin's Natural Selection model of blind variation and selective retention. It consists of *Enactment* (bracketing a portion of the stream of experienced sense-data for further interpretation and consequent action), *Selection* (giving the bracketed data with the most plausible interpretation), and *Retention* (encoding the result in memory). Enactment (bracketing) and selection can be collapsed into a single phase, *Framing*, where the term denotes both the operation of focusing on a subset of the available data and the fact that this operation is schema (frame) driven.

2. *Sensemaking is grounded in identity construction*: how individuals perceive, interpret, and partly shape their situations and feeds-back to them, reflects, and, contingent on the situation's response, changes their identities.

3. *Sensemaking is subjective, i.e., sense is in the eye of the beholder*: Implied by the first attribute, this attribute, which is entailed, in addition, by the fact that there is no

sensemaking sans a sensemaker, implies in turn that different persons may make different sense of identical situations, as well as that the same person may likewise make different sense of similar situations, if he or she can be persuaded to view them from different perspectives, or revisit them during different sages in their history.

The last point sends the discussion back to the issue of identity, or more precisely, *identities* construction, because though sensemakers are *singular*, every individual sensemaker has several, or even, multiple identities, that are shaped and come to the fore by the social and cultural milieus in which he develops, lives, and, particularly, work. Thus:

4. *Sensemaking is social*: This attribute has two aspects. Firstly, sensemaking *activities* typically takes place in social settings and in the company of others (work, leisure groups and family). Secondarily, and more fundamentally, as an interpretive activity, sensemaking is heavily dependent on one's language, which, in turn, is embedded in and virtually unintelligible without knowledge of one's culture (both national and local).

5. *Sensemaking is retrospective*: This attribute is extremely important because it is related to, or even determines the seemingly unrelated issue of the relationship between sensemaking (i.e., cognition) and action. Distinct from received wisdom which holds that thinking should precede action (hence, "look before you leap"), and that deliberation is best done away from action (ergo the glorious solitude of "Think!), sensemaking is construed as an action first reasoning intertwined with action compatibly with notions such as thinking by doing (Neth & Müller, T. (2008), and Reflection in action (SchÖn D. A., (1983), and captured by maxims such as "How can I know what I think, until I see what I say" (Weick, 1979, p. 5), and "An explorer can never know what he is exploring until it has been explored" (Bateson, 1972, p. xvi).

Frames

Frames are defined, consistent with Klein et al. (2007), as ***interpretive schemas that drive sensemaking***.

Attributes of frames

1. *Frames come with labels.* Lakoff, (1995) accounts for the differences between the two fundamental belief structures that split the various manifestations of American political life into conservative vs. progressive in terms of two corresponding frames (which operate as metaphors), the "Strict Father"(conservative) frame and the "Nurturant Parent" (progressive) frame). Additional examples of frames more pertinent to the present paper pertain to war: (full scale)"War;" vs. (limited) "Operation;" "Low vs. high intensity conflict;" and "Batash;" the Hebrew IDF acronym and jargon designating the grinding, small scale day to day Sisyphus-like security operations against Palestinian terror.

2. *Frames are acquired and elaborated through experience in a recursive fashion*: While frames direct action that change (and thus partly shape) the actor's situation, this change triggers a process of learning from experience that in turn partly shapes the frame.

3. *As people acquire more experience and improve their expertise in a certain domain, their associated frames become more fine-grained,* where *Grain* denotes the number and complexity of interrelationships among a given frame's elements. The finer a frame's grain, the more complete and accurate the mental models that it informs, and more effective the action that it drives, forming the following causal chain:

Expertise ➔ *Grain* ➔ *p* (*appropriate frame selection* ➔ *p* (*effective action*)

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Reframing

A useful heuristic for tackling problems that defy solution, reframing is defined as replacing an inaccurate or misleading frame that informs ineffective action by a valid one and, as a result with effective action. In short, reframing is both the concept that accounts for experiencing the penny drop, and the therapy that desperate housewives should consider before seriously contemplating murdering or divorcing their husbands.

The rationale underlying reframing is straight forward: Granted that of a problem definitions are grounded in underlying conceptual frames of reference, and that "if men define situations as real they are real in their consequences" (Thomas' 1928), replacing a frame that guides a patently ineffective solution (or undesirable behavior in general) by one that is compatible with a desirable solution or action, should (and often does) produce dramatic improvement.

Several reframing recipes were developed in psychotherapy, mediation, and policy analysis. For example:

Using the Figure & Ground principle of Gestalt Theory that different backgrounds (i.e., contexts) confer different meanings to identical figures (e.g., concepts), two psychotherapists, Bandler & Grindler (1979), developed two methods for reframing. *Context reframing* reframes the meaning of an attribute indirectly by removing it from a context in where it is undesirable to a situation in which it is valuable (basically, the same method that is used by Mad Men who increase the attractiveness of merchandise by associating it with handsome males or pretty women). In contrast, *meaning reframing*, changes the value of an undesired attribute, issue or entity directly by changing its description from negative to positive. The best known example of meaning reframing is the Tom Sawyer's fence whitewashing caper, which he artfully turned

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from a potential embarrassment to a profit center by simply (or perhaps not so simply) convincing his friends that this task was not "work", a frame that excluded young white "gentlemen" in the antebellum South, but a "mark of responsibility worthy uniquely of -- and hence signifying -- precisely this class. Bandler and Grinder (1979, developed, in addition, a six step reframing procedure for changing offensive behaviors based on the methods of Milton Erickson and Virginia Satir, where people conduct an inner dialog with two parts of themselves, the perpetrator and the creative (my terminology), who are responsible for the offensive behavior and represent their creative selves, respectively. The former is inquired about the (presumably positive) goal of the offensive behavior, and the latter is requested to design alternative behaviors that would (a) achieve this goal, (b) be inoffensive and (c) acceptable in the sense that the perpetrator agrees to adopt it as an alternative. Close examination of this method reveals that the six step procedure is basically a variant of a basic problem reframing method that is designed to correct the common mistake of defining problems inappropriately in terms of *solutions*, input, or *means* (e.g., "I don't have enough money/time/management support") instead of the *objectives* or *output* the these are intended to achieve (Filley, 1975).

Working in the area of policy analysis, SchÖn, & Rein, (1994), developed the methodology of "frame reflection" to help policy analysts and policy makers tackle "intractable policy controversies is deemed to be out of place in policy making, where it might be most fruitful, while in the academy, which is seen as its proper locus, it tends to unfold in a way that is useless to those who are engaged in policy practice. On both counts practice loses out."(xvii). While frame reflection does not ensure reframing, it facilitate it by calling participants to reflect critically on their assumptions & objectives and to adjust their ends pragmatically to their means.

Specifically, participants are to reflect on potentially reframing the problem; how the intentions and actions of the various parties (specifically themselves) may have blocked the policy making process, and on to become. They must reflect on the intentions and meanings of the other parties in order to be in a better position for potentially reframing the policy's objectives.

Finally, working in the area of mediation, Hale (2007), developed a three step "negotiation frames" procedure consisting of exploring the parties' feelings, needs, & values; changing their language in a way that is conducive to accommodation and resolution, and help them assume each other's perspectives, e.g., by assume each others' positions or roles.

Two final brief notes regarding the conceptualization of reframing in this study are in order: Framing and reframing are posited to be identical except that in the latter or decision makers grapple simultaneously constructing one frame and letting go of another to which they have some commitment. The second note is that since the study is about replacing an inaccurate frame by a more accurate or valid one, reframing is construed as a special case of gaining insight, i.e., the apprehension of the "true" nature of a situation or an entity. The practical implication of these notes to the present research is that both Instant process, in which reframing was unnecessary because the very first frame constructed by the decision maker was accurate or adequate, and Persistent processes, in which decision makers failed to reframe, are informative, the former by providing example of successful framing or the end result of the reframing process, and the latter for highlighting possible blocks to successful reframing.

METHOD

The design of the study included two phases. In the first, *exploratory* phase grounded theory methodology (Goulding, 2002), was used to construct a preliminary model using interviews with five unsystematically selected participants. The model was then validated and elaborated in the second *confirmatory* phase, using interviews with the remaining 13 participants.

Participants

Nineteen reserve officers (Major – Lt. Col.) who fought in the second Lebanon War. Some of these interviewees experienced and presumably experienced "penny dropping" (see below). The first interviewees were recruited through personal contacts of Professor Lipshitz, and additional interviewees are enlisted through the interviewees using the "friend brings friends" method.

Although interviewees were informed the study's goal and inquired if they could report a suitable "penny dropping" case in the preliminary recruitment phone conversation that recruited them, not all reported cases exhibited, attributes of this phenomenon. Nevertheless, all interviews proved useful in the final analysis.

Data gathering

Interviews followed the CI-CDM semi-structured interview, a method (Lipshitz, 2008 b), that integrates two semi-structured interview procedures specifically designed to maximize the rigor of retrospective reports. The 5 phase of this method are as follows:

Introduction: The purpose of this phase is to instructing interviewees on the interview's objective, duration, structure, and special features including

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confidentiality, obtain required background information, and initiate the first phase of the interview proper i.e.:

Unaided report: Is initiated by the instruction: "Please tell me about the episode from start to finish from your point of view." Interviewees were allowed to talk without interruption as much as possible except for minor intrusions for clarifying technical or abstract terms.

Time line delineation: A collaborative effort designed to identify and order the episode's principal events, most notably, the antecedents and consequences of the exact point in which the "penny dropped," by actually drawing a line on page and on which the various events in the case are indicated in their chronological order. This phase was critically important for two reasons: (1) the identifying processes of "instant" (no reframing) insight regarding the nature of the war, and the proper ordering of the episode events for future analysis.

Progressive deepening: Guiding the interviewee through the episode in a series of "sweeps" focusing on points of interest identified in the time line, using open ended probes that elicit only observable data and carefully avoiding from suggesting any specific content or direction. For example: *Quoting & fading*: "you said that…" *Request for example*: "Can you give me an example on what basis you came to this conclusion?"

Structured Interview: Direct theory driven probes that concluded the interview by ascertaining that it obtained all the information of interest (e.g., the antecedents and consequences of why the penny had dropped in the episode).

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Data analysis

The interview protocols were transcribed and interpreted using the second part of the CI-CDM method, its data analysis procedure which consists of, coding; scenario construction; and model development (Lipshitz, 2011)

Similar to the CI-CDM interview, the *CI-CDM protocol analysis procedure* is also designed to maximize rigor by integrating diverse extant technique methods. The three phases of the procedure, coding; scenario construction; and model development, correspond to the three phases of transforming facts (un-interpreted sense-data to information (abstracted – first level interpretation facts) and then to knowledge (information that is embedded in action, theoretical, or cultural framework). Action-embedded information is pragmatic or actionable knowledge.

Coding: Thematic codes constitute the building blocks of the theory or model developed from the data: Theory-driven, or top-down, **TD**), i.e., literature based codes, data-driven, or bottom-up (**BU**) codes (i.e., new relevant themes suggested by the interviews) and concept (**C**) codes corresponding to the study's focal construct *Penny dropping* **PD** and general constructs such as decision (**D)**, and specifying their operationalization in the study.

Next, the step of *Scenario construction* consisted of transforming coded episodes to short vignettes studded with the study's code categories, whose structure conformed to the following 5-part template: (1) *1st frame*; (2) *development* (if the episode type was *gradual*); (3) *penny dropping* (unless the episode type was *instant*); (4); *2nd frame*; (5) *outcomes & additional points of interest & analysis.*

While scenario construction is a standard element of the CI-CDM procedure which employs transformations as means to facilitate the emergence of new insights by literally viewing from different perspectives, this particular template evolved from the

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analyses of the 5 interview transcripts) which revealed 3 distinct sensemaking processes or "roads to insight" (see results section below). A scenario would begin, accordingly, by identifying the episode's process type and proceed to describe the decision maker's initial frame, the sequence of events leading up to penny dropping (if relevant), the penny dropping experience and second frame (if relevant), and conclude with a short description of the effects of reframing and a brief note regarding additional findings and theoretical implications.

As an analytic device *scenario construction* has three functions:

(1)   It is the second phase or level in the process of interpretation, conceptualized as transforming ***data*** i.e., un-interpreted observations, in this case, the episode, first to ***information*** (i.e., abstracted or conceptualized concrete observations), and then into ***knowledge*** (embedding or interrelating relating concepts within wider theoretical, socio-cultural or pragmatic frames of reference. The first phase of the process was begun by ***coding*** in which selected text segments (observations), were conceptualized (i.e., mapped onto abstract categories.

(2)   The construction of a scenario selects a subset of codes that are relevant to the episode; indicates their appropriate temporal positions (and hence causal interrelations), thus, integrating the different codes in a user friendly and context sensitive narrative form, that highlights otherwise difficult-to-spot dynamic features, facilitates both to compare episodes to one another and to

(3)   Communicate conclusions and results (including a ***model*** developed as the final step in the analysis) clearly, transparently, and hence rigorously.

PROCEDURE

Potential participants were contacted by phone by the author or a research assistant, informed about the goals of the study, and inquired about their suitability

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(i.e., whether they had experienced penny dropping, and their willingness to participate. Interviews, lasting approximately 90 minutes, were conducted by research assistants who were trained by the author, in various locations suited to the interviewees' convenience (typically, their offices or work places). Analyses were conducted by two students as part of their MA theses supervised by the author.

RESULTS

The results of the two phases will be presented separately.

Phase 1.

First level interpretation: Coding

Twelve thematic codes emerged in the process of coding the five interviews (Table 1). Although all code categories were, strictly speaking, data-driven or bottom-up (**BU**), inasmuch as none (with the possible exception of those designated as conceptual or **C** were presumed a-priori, code categories that could be referred to extant theory, albeit retrospectively, were designated as top-down (**TD**).

The majority (9 out of 12) of the thematic codes in Table 1 are top-down or theory-driven consistent with Klein et al.'s., (2007); SchÖn & Rein's (1994), Weick's (1979; 1995), and other theories of reframing, sensemaking and social cognition (Table 1). The latter finding is reassuring inasmuch as the compatibility of carefully elicited and reliably coded retrospective verbal reports to extant valid theories is a yardstick of for rigorous qualitative analysis (Lipshitz, 2010), that increases the credibility of the conclusions based on Table 1.

Table 1. Thematic codes

#	Code	Definition	Source
1	*Ambiguity ignorance & uncertainty*	References to ignorance, ambiguity, uncertainty, or disorientation.	**TD**, (Weick, 1979;1993).
2	*Anomaly*	Observed irregularities in the situation.	**TD**, (Klein et al., 2007).
3	*Decision*	Deliberated or actual action**.**	**C**
4	*Disconfirmed expectations*	Encountering events contradictory to plans, orders, doctrine, etc..	(**TD**, SchÖn, & Rein, 1994; Klein al., 2007).
5	*Frame at T_1*	Sensemaker's initial frame inferred from the corresponding situation description**.**	**C**
6	*Frame at T_n*	Sensemaker's frame following reframing inferred from the corresponding situation description.	**C**
7	*Mental Orientation*	Sensemaker's emotional & mental readiness re- possibility of war.	**BU**
8	*Penny drop*	Insight re- the accurate nature of Lebanon II.	**BU**
9	*Priming*	Reframing enhancing experiences**.**	**TD,** (Allen, et al., 1994).
10	*Stress*	Manifest anxiety or tension.	**C**
11	*Threat*	Manifest fear of specific risks, e.g., injury or death.	**C**
12	*Triggering Cues*	Stimuli indicating & activating specific frames**.**	**TD**, (Abelson, 1981).

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top-down, consistent with Klein et al., (2007); SchÖn & Rein 1994); Weick (1979,

1995) as well as other theories of reframing, sensemaking and social cognition. This is reassuring, inasmuch as it shows that rigorous analysis of carefully elicited self reports from long term memory produces results consistent with extant theories. For its part, the latter consistency confirms the credibility of the novel insights that Table 1offers too.

The first of these is associated with the bottom-up code of mental orientation, and it showed that those officers who were better prepared for the possibility of war, e.g., because of intensive preoccupation with this possibility or training, or the wish to command their troops in actual battle, were also more ready to interpret multi-vocal stimuli that are open to this interpretation as such, instead of investing them with some alternative plausible – but incorrect – meaning. Note that although this finding is novel with respect to the reframing literature, it is consistent with the basic objective of scenario planning as developed in Shell Corp. (Wack, 1985), in which the intention of exposing decision and policy makers to diverse future scenarios is to prepare them mentally to the possibility that something other than the scenario which they were specifically expecting may happen.

The second insight is associated with the conceptual thematic code of threat. Originally, the project was conceived as an opportunity to study how decision makers succeeded to reframe under **unfavorable** conditions of threat and stress, that is, threat was expected to operate as a barrier to reframing. However, those interviews in which this code appears made it clear that quite to the contrary; only persons who felt threatened framed the situation as war.

A third insight offered by the interviews was the identification of three distinct types of insightful or accurate situation framing and reframing, **Instant**, **Gradual**, & **Epiphany**, presented in Table 2 below:

Table 2. Three roads to insight

Type	Definition	Example
Instant	The decision maker's initial situation frame is correct ($t_1 = t_n$)	"When I heard of the call-up of reserves I thought "'this must be war'."
Gradual	Reframing is preceded by (and can be plausibly attributed to) a sequence of sensitizing events	"We realized something big was going on when the entire unit and the drones were taken to Lebanon from Gaza."
Epiphany	Reframing is triggered by (and can be plausibly attributed to) a single dramatic event.	"After Dabel...where ten soldiers were killed, we realized this was a war."

Instant processes denote episodes in which decision makers' initial framing of the situation was valid, or accurate, that is t_1 was identical or nearly identical to t_n, in other words, decision makers in these episodes did not have to reframe. Thus, the illustrative quote in table 2 "When I heard of the call- up of reserves I thought "'this must be war'" was reported by an interviewee who made this conclusion as soon as his unit was called up. In terms of our model, his sensemaking was driven by a frame in which "war" and "large scale reserve units' call-up" were tightly coupled, so that observing the former necessarily triggered the latter. *Gradual* processes appeared in interviews in which reframing was preceded by several sensitizing events. Thus, the illustrative quote in Table 2 was reported by an interviewee whose unit was stationed in Gaza, and who was sensitized or primed to finally reframe from a limited "operation" to "war" first the fact that the all-important drones (unmanned small aircrafts) had been transferred from his unit it to units serving in Lebanon, and then by the abrupt transfer of his own entire unit northward. Finally, *epiphany* denotes processes in

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which reframing occurred at some point during the episode with no prior apparent preparation, triggered by a single dramatic, attention-grabbing event. Dabla, mentioned in the illustrative quote, is village in southern Lebanon in which the IDF lost several soldiers in a single skirmish.

Table 3 deconstructs the three basic types of framing and reframing presented above in terms of three attributes of the studied episodes: *Decision maker's mental set-up*, i.e., their initial expectations regarding the likelihood of war (bland ≡ low likelihood; primed ≡ high likelihood; gung ho ≡ eagerness to go); and the specific nature of their frames: *Frame$_1$* - Unclear/ Something Big ≡ ill specified frames ranging from "the situation was not clear, I did not know what will happen" to "I knew it was going to be something big" and "Limited Operation"' i.e., limited retaliatory action) and full scale war), and Frame$_2$ – full scale war and War + ≡ various finer tuned appreciations of the true nature of Lebanon 2 which combined deficient preparedness on the IDF side and a combination between low intensity guerilla warfare and elements of regular warfare on the Hezbollah side.

The striking finding in the Table is that all the decision makers who reframed were either primed gung ho to the possibility of war. I will return to this association between expectations, wishes and reframing in the discussion of the second sample.

Second level interpretation: Scenarios construction & model building

As indicated in the Method section, coded interviews were transformed into scenarios, five part "thick" episode descriptions (Ponterotto, 2006) following the template *1st frame*; *development* (optional); *penny dropping* (optional); *2nd frame*; (optional); and *outcomes & additional points of interest & analysis.* These scenarios were next modeled graphically as cause map or influence diagrams, using Lipshitz & Ben Shaul (1997) schema driven decision making model as the basic template in

order to facilitate both the visual detection of similarities and differences among episodes, and to integrate sensemaking and the literatures on framing/reframing and decision making. The inclusive model (Figure 1),that integrates sensemaking (Weick's 1979), decision making, (Lipshitz & Ben Shaul (1997), and reframing SchÖn & Rein, 1994), which is labeled accordingly, SDMR. Figure 1 presents the elements of the model, their causal relations, and the nature of these relations. It *does not* depict the exact sequence of events in the framing process which is slightly more complex. Since the extra complication would have impaired the coherence of the Figure, the process is described next.

Table 3: Cases' Key Attributes

CASE #	Rank/ post	Type Instant Gradual Epiphany	Frame 1 Limited Op. Unclear/ Something Big War	Frame 2 Limited Operation War War +	M-O Gung Ho Primed
1	Infantry Regiment Commander	I & E	SB	W +	P
2	Infantry Regiment Commander	I & E	SB	W +	P
3	Artillery Regiment Commander	I & G	W	W +	GH
4	Sniper (NCO, Infantry)	G	LO	W	P
5	Artillery Regiment Commander	G	U	W	P

The model construes framing and reframing as a three part information processing I/O process whereby framing is a function of attributes of the decision maker, such as his expertise, relevant history that preceded the framing (or reframing) process, such as events that either primed or distracted the decision maker's attention, and

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attributes of both the situation and the particular critical cue that triggers, or activates the frame (i.e., their figure – ground configuration). The following three propositions regarding the framing process and its antecedents and consequences and the likelihood of reframing can be derived from the model:
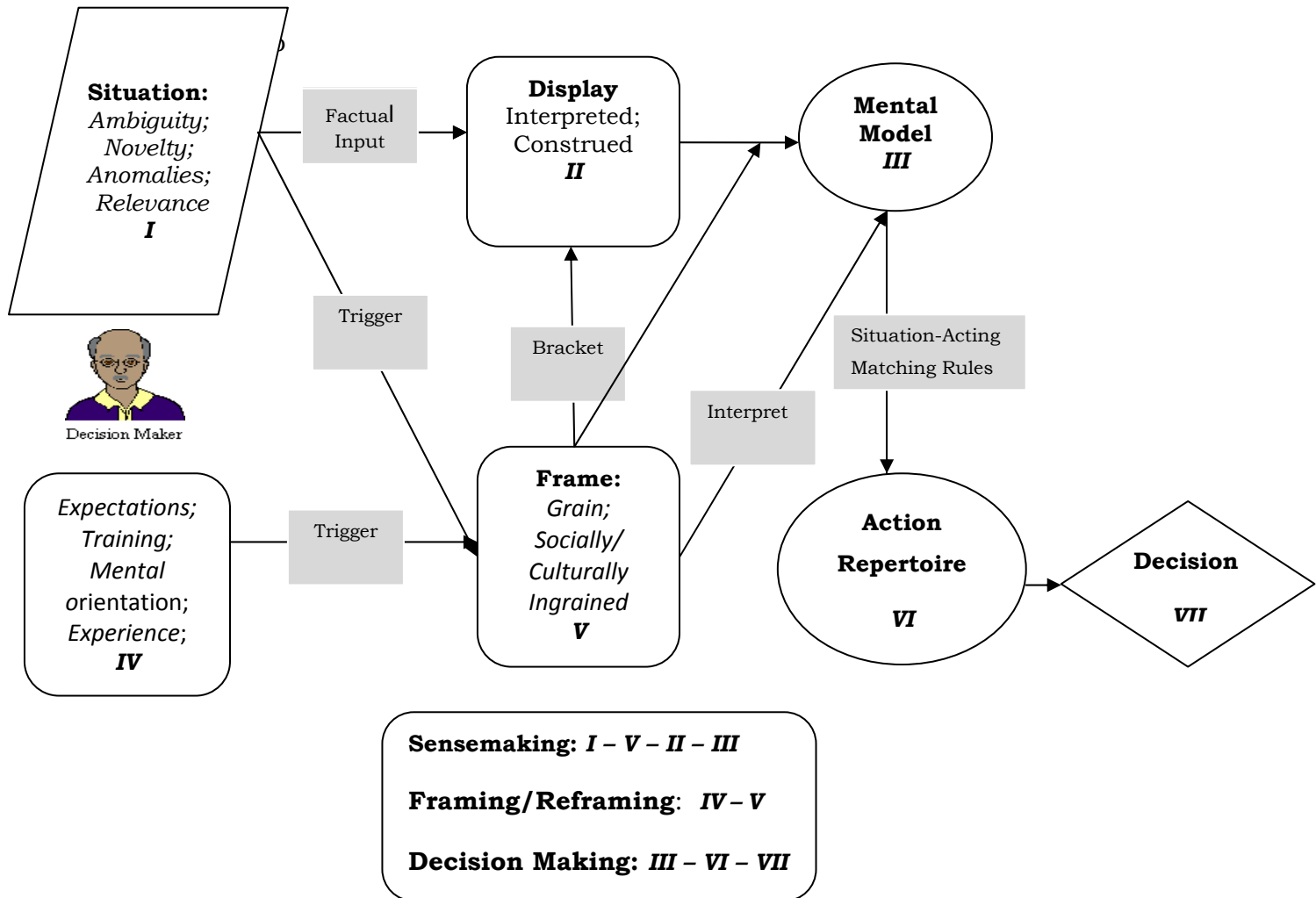
1. *The framing process – antecedents and consequences*: Framing is triggered by a *critical cue*, a stimulus or stimuli that activate it (Bowden, Jung-Beeman, Fleck, & Kounios (2005). The probability of critical cue detection is a function of both decision maker's characteristics *mental orientation* which reflects his or her personality and ideology, *expectations*, *training & expertise*)and situational properties (e.g., *ambiguity*, *novelty*, and *critical cue salience*). Once a frame has been activated it guides the decision maker's bracketing of the situation (Weick, 1979), leading to the production of a *display* (Weick, 1979), which consists of a subset of the total information potentially available for developing its subjective situation representation or *mental model.* Mental models inform the next phase in the *decision making* process, either matching the situation with the most appropriate action, or changing from a Matching to Choice or Reassessment modes (Cohen & Lipshitz, in press; Lipshitz & Ben Shaul (1997).

   In the following propositions regarding the probability of reframing ($F_1 \rightarrow F_2$) F_2 denotes a more appropriate frame than F_1:

2. Effective action is a function of the likelihood of critical cue recognition.

3. Critical cue recognition is a function of: the decision maker's background e.g., expertise – notably frame repertoire, mental orientation, and priming events), actions – notably, range of bracketing range (narrow vs. wide); and the situation (e.g. cue salience, novelty and ambiguity.

   The model and propositions were tested in the next phase of the study.

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Figure 1. Sensemaking, Decision Making & Reframing (SDMR) Model

Sensemaking: *I – V – II – III*

Framing/Reframing: *IV – V*

Decision Making: *III – VI – VII*

Phase 2.

The 14 interviews analyzed in this phase were coded top down using the coding set presented in Table 4 simultaneously with bottom up using code categories suggested by the interview protocols. The research question was does the protocol confirm, disconfirm, or elaborate the SDMR? To answer this question, consider first categories that were used in coding the interviews in phase 2. These describe both the latter's' key attributes and the degree to which he model is pertinent to them.

The Table shows that phase 2 interviews included a fourth type of framing & reframing processes, *Persistent,* in addition to the three types identified in phase 1, whereby decision makers either held on to their original frame or made some "as if" cosmetic changes into some variant of it. Thus, the 14 episodes in the second sample proceeded in one of the following pure or hybrid combinations of the four processes: *Persistent* (*P*), *Instant Gradual (G),* and *Epiphany,* (*E*) processes that are clearly clustered non-randomly in the Table: *R, G, I & I, I & E, I & G, G & E, E & G,* where the first and second letters in the hybrid processes pertain to the *framing* and *reframing* of F_1 and F_2, respectively, . This nonrandom pattern was obtained by following a simple rule (discovered after some experimentation, absent the option of statistical methods):

(1) Distinguish between interviewees with (a) *Frame 1 = (LO*) OR (*LO*) + an add-on e.g., "something big" (i.e., some sense that the IDF was on to an unspecified-bigger-than-usual-but-not-quite-a-war operation), OR "*unclear*" (a general sense of lack of understanding of the situation), (1-4), AND (2) *Frame 1* = W).

(2) The rationale underlying the rule was that, similar to any process, the later attributes of reframing are determined by its preceding and early phases.

The assumption "paid off" inasmuch as it can be seen that subgroup 1 includes the *Bland,* and subgroup 2 includes the *Gung ho* interviewees, that is, the expectation or the high motivation to go to war is part of the of *War* frame or *Gestalt,* whereas the low motivation to do so is part of its (in the present case) asymmetric *Local operation Gestalt.*

(3)   Except for the cases, all interviewees who experienced the penny dropped reframed their conception of the nature of the war. The two exceptions were interviewee 5, an ordinance company commander who realized that the location of his unit prevented it from executing its functions, and of interviewee 6, the chief of staff of an armor brigade who concluded following a daring successful raid behind its lines that "Hezbollah was not as invincible as we had imagined it to be. Its fighters were not better than us, and did not control the area nor mastered it better than us because it was theirs. Quite to the contrary, throughout the operation they had had been unaware of our movements except for a few fortuitous encounters of which they completely failed to make sense. Owing to advanced technology, we, on the other hand, could listen in to all the conversations that [the Hezbollah fighters] held among themselves and with their headquarters.... It turned out that when one of their commanders was killed no one was willing to replace him...they were in absolute panic!"

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Table 4: Phase 2 Cases' Key Attributes

C A S E #	Rank/ post	Type **P**ersistent **I**nstant **G**radual **E**piphany	Frame 1 **L**imited **O**p. **Unclear/** **S**omething **B**ig **W**ar	Frame 2 **L**imited **O**peration **S**omething **B**ig **W**ar **W**ar **+**	M-O **Gung H**o **Pr**imed **B**land
1	Artillery regiment com.	P	LO	LO	P
2	Infantry brigade ops. officer	P	LO	LO	B
3	Artillery regiment dep. com.	G & E	LO & U	SB, W+	B
4	Artillery regiment dep. com.	G & E	LO	W	B
5	Ordnance company com.	G	--	--	P
6	Armor brigade chief of staff	G	--	--	P
7	Artillery brigade c.o. staff	I & I	W	W+	P
8	Artillery brigade ops. off.	E & G	W	W+	GH
9	Artillery regiment com.	I & E	W	W+	GH
10	Artillery regiment com.	I & G	W	W+	GH
11	Infantry regiment dep. com.	I & G	W	W +	GH
12	Artillery brigade dep. com.	I & I	W	W +	GH
13	Artillery regiment com.	I & G	W	W +	GH
14	Artillery regiment com.	G	W	W +	GH

The remaining 12 interviewees reframed from framing the Second Lebanon War as a *Limited operation* (*LO*) or a *conventional War* (*W*) that would either conclude quickly or progress according to plans, to a more realistic understanding of the frame (*W+*) reflecting either the Second Lebanon War's low-intensity or a-symmetric war dimensions, or the I.D.F.'s under-par performance. In order to discover the different dynamics underlying the *Persistent*, *Instant*, *Gradual* and *Epiphany* processes types, the coded interview protocols were next represented graphically as flow chart models (see Figure 2 for 9 illustrative models). The analysis revealed the processes shared a common structure consisting of four segments, *pre-framing* (denoting background parameters influencing the entire reframing process and the framing of *Frame 1*); *re-framing*, (the sequence of events spanning F_1 and F_2); *trigger*, (attributes of the stimuli that activate F_2); *post-framing* (events anteceding to F_2 that reflect back to it, consistent with Weick's (1979), notion of retrospective sensemaking). The graphical representation, combined with close reading of the interview protocols, provided additional insights on the similarities and differences between the four processes. Consequently, Figure 2 essentially unpacks elaborates the left side of Figure 1 by distinguishing between different processes of framing and reframing and confirms the integration offered by the SDMR model between decision making, sensemaking, reframing and insight. Regarding the latter, the findings from the second phase are consistent with more recent developments in this field (Cronin, M.A., 2004; Jung-Beeman, Bowden, Haberman, Frymiare, Arambei-Liu, Greenblatt, et al, (2004), as will be elaborated in the Discussion section. At this point I turn to discuss the insights that the analyses of phase 2 shed on the dynamics of four framing and reframing process types found in this study

Table 5: Barriers to reframing

	Barrier	Definition	Example
1	Equivocality & narrow bracketing (Weick, 1979)	Real world situations' inherent compatibility to multiple frames which enables **both** reframing **and** persistence.	The inability to deduce from the threat signs (e.g., bombs, casualties) *in vivo* if one was in "war" or in an "operation."
2	Deficient or missing frame	I.E.: (1) The decision maker's repertoire does not include F_n; (2) F_n exists, but is not sufficiently developed to detect the anomalies that would trigger *Gradual* or *Epiphany* processes with more experience decision makers.	Interviewees did not consider Lebanon 2 as a "war"
3	False Priming	A salient prior event primes an inappropriate frame which then drives the decision maker's attention & expectations	A briefing on "conventional" war programs triggers a persistent interviewee's compatible frame.
4	Inappropriate analogies	Drawing false analogies based on an inappropriate espoused frame.	Interviewees with the conventional war frame based their "limited operation" situation interpretation on the arguments such as: "This is not like Yom Kippur"
5	Information deficiencies	I.E.: (1) Total lack of information re the inadequacy of current frame or situation; (2) absence of sufficiently diagnostic cues that distinguish between valid & non-valid frames; (3) salience of cues supporting non-valid frame.	(2) see equivocality above.
6	Emotional detachment	Absence of threat or sense of urgency generating a sense of relevance & involvement prompting & sustaining the sensemaking that is necessary (but not sufficient) for reframing).	
7	Absence of a sense of impasse	Absence of a sense of impasse that triggers sensemaking and critical reflection.	See *Gradual* processes.
8	Strategic considerations	Economic or political calculations that counteract reframing.	The government's decision not to declare a state of war.

Persistent (*P*)

Logical analysis and fine grained reading of the two *Persistent* interviews reveal
eight obstacles, or barriers to reframing (Table 5):

1. *Equivocality* & *narrow bracketing* (Weick, 1979): Equivocality is the fundamental
property of the environment in Weick's (1979) theory of sensemaking which is
construed essentially as a process of reducing equivocality either in the situation and
in its mental representation, or only in the latter, as a prerequisite for organizing and
action.

a. Construing reframing as replacing one interpretive frame that informs sensemaking
F_1 by another F_n, entails the equivocality, thereby integrating Weick's (1979; 1995)
theory of sensemaking and SchÖn's (1983) approach to critical reflection and
reframing at their core. Equivocality enables reframing because it permits the one-to-
many mapping rule that is a necessary condition for its occurrence. For the very same
reason it is simultaneously a barrier, because it admits correct (or functional) as well
as incorrect or dysfunctional) interpretations of identical situations, that is, owing to
equivocality persistent decision makers can hang on or replace inappropriate frames
by phony more of the same" alternatives. Bracketing, screening of or focusing on part
of the data stream that impinge on one's senses for further attention is the first
operation in enactment, which, in turn, is the first stage in Weick's (1979 three-stage
model of sensemaking, enactment, selection and retention. Narrow bracketing denotes
a barrier that happens when decision makers trigger an inappropriate frame because
they bracket their situation too thinly, sometimes inadvertently, as in the case of
persistent interviewee 2 who attributed his failure to understand from being under
intense rocket fire to that he was in a war to the fact that this is equally an attribute of

local operations (equivocality) with the consequence that that only persons at HQ who have access to the "wider picture" can make the correct distinction (narrow bracketing.

2. *Deficient or missing frame*: Formally reframing can be represented as a transition, process:

$$I$$

$$F_1 \rightarrow G \rightarrow F_n$$

$$E$$

Representing reframing as a *transition process* from a situation in which action is informed by frame F_1 to a one in which it is informed by F_n through one of three paths, *(I)*, *(G)*, or *(E)* highlights the fact that, on the one hand, reframing is contingent on the availability of F_n and certain properties of F_1, and, on the other hand, the absence of these, constitutes barriers to reframing. Of these two barriers, the non-availability of F_n in the decision maker's repertoire was exemplified in the second phase of the study by interviewees whose "War" frame as shaped strictly by conventional wars modeled after such wars in Israel's past history, notably, the 1973 "Yom Kippur" war. These persistent interviewees insist to this day that the events known as the "Second Lebanon War" do not constitute a "war", but rather some kind of an "extended operation." Stating this aspect, or "edge" of barrier 2 bluntly, since people see with their brains as much as their eyes, they cannot see – or reframe into - that which their brains do not contain.

The second part, or edge, of barrier 2, *deficient frames,* denotes an impoverished F_1 such as those that characterize novices (Klein, 1998) that do not allow them to discern or understand the significance of anomalies which signify either the need to reframe or the potential to do so in a given situation for. This barrier was not observed in directly the interviews but deduced from those in which interviewees reported that they had

been sensitized to reframe instantly, experienced a wake-up call (*epiphany*), or nudged along a gradual process by noting anomalies helped by situated context specific knowledge, such as the permission that was given to heavy tank and mobile artillery units to drive to the assembly areas on their own tracks thus damaging the asphalt roads, rather than wait for the semi-trailer transporters – a highly diagnostic cue for an emergency situation and a high probability of the a large scale operation – or war – for those who are familiar with the normal, standard operating procedures.

3.   *False priming:* This, in a sense the polar opposite of the missing end state F_n, denoting situations whereby a salient event triggers a dominant inappropriate frame F_1 that precludes all later opportunities to reframe. The relevant illustration is that of the interviewee whose conventional war frame was triggered at by attending a briefing in which a senior officer presented I.D.F.'s plans that conformed to this frame, which he accompanied by vivid rhetoric that bolstered the expectations that the interviewee formed consistent with this *gestalt* (frame + plans + rhetoric: "You are going to see the full might of real IDF in action..."). When the interviewee actual experience completely contradicted these expectations, he resolved the contradiction by concluding that "this was not the "war as promised."

4.   *Inappropriate analogies* : This barrier is similar to *false priming* in that both are triggered by an inappropriate initial frame F_1 which leads decision makers down the garden path, as exemplified by the persistent interviewee who kept assessing the situation in Lebanon 2 by drawing analogies from his – largely if not totally irrelevant – experience from the 1973 war.

5.   *Information deficien*cies: Both framing and reframing are triggered by critical cues (anomalies) signifying that the situation is problematic Figure 1). This entails that the availability of diagnostic information is a necessary condition for both, and
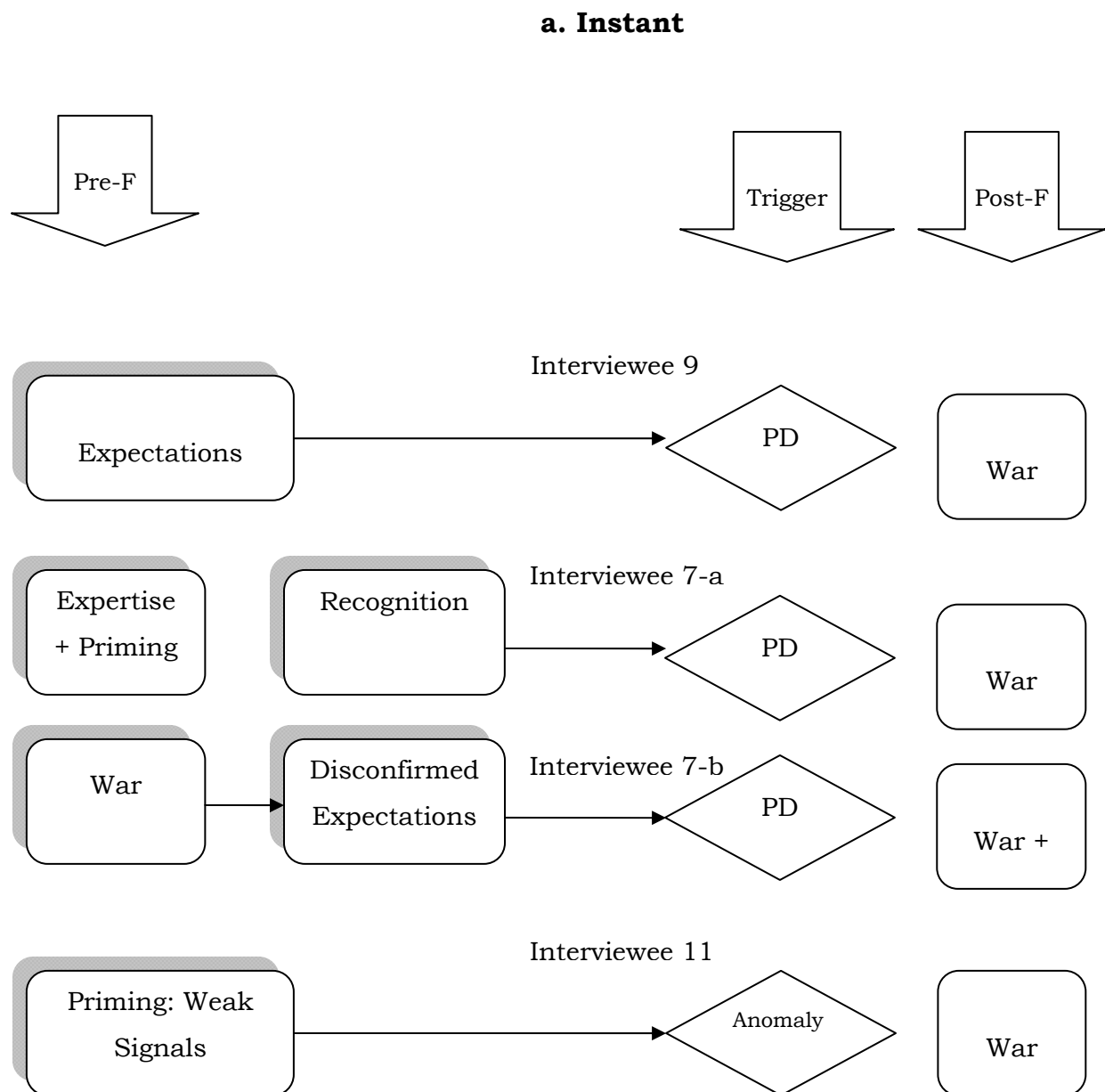
that its non-availability is a barrier. The latter was illustrated by a persistent interviewee's reference to the isolation and cutoff from critical information about the war supplied to the general public by the media as one of the cause for his failure to reframe.

6. *Emotional detachment*: A barrier that underscores the value of grounded research. In contrast to the original rational for the present research, which was to use the success of some participants in the Second Lebanon War to reframe as an opportunity to study how they accomplished this demanding task under such difficult conditions of threat and ambiguity, analyses of the data in the first phase – and re-reading Weick (1979; 1995) made it very clear that a certain sense of anxiety and threat were, in fact, conducive, if not, necessary, for reframing. Closer reading of the interviews in both phases reveals that the critical variable is a sense of *relevance* or *emotional involvement* that can be most modeled most aptly, perhaps, as a continuum that is anchored by people living in the central areas of Israel who could ignore the war, if they wished to, by avoiding all news reports, to a soldier whose unit had just been hit by a rocket barrage and sees his dead and wounded friends strewn all over the field. Persons in the first group may find it very had to build a detailed mental model of the second Lebanon War or comprehend its meaning. The mental models of those in the second group, in contrast, are rich, multidimensional, idiosyncratic, and likely to affect every aspect of their lives.

7. *Absence of a sense of impasse*: This barrier is derived from the Gradual process interviews (see below), which indicate that a sense of impasses or "being stuck" often preceded reframing, consistent with the literature on sensemaking (1979), reflection (Dewey, 1933) and insight (Cronin, 2004).

8. *Strategic considerations.* The first seven barriers pertain to cognitive-emotional psychological factors. The 7th barrier denotes political/institutional is considerations mentioned by interviewees, e.g., the government's decision not to declare a state of war during the Second Lebanon war owing to its budgetary

Figure 2: Paths to Insight

a. Instant

implications. Note that the validity of the claims is immaterial for utility of this last barrier category.

Instant

Episodes were coded as "instant" framing processes if the interviewee mentioned specifically that he framed the situation quickly as "War" during call up or soon afterwards, or if he framed the situation appropriately otherwise compatible with the episodes' subject matter. The six interviews categorized this proceeded in three patterns: (1) *I & I,* where the decision makers framed (W) and reframed (W +) quickly without the aid of a salient dramatic trigger (which entails epiphany). (2*) I & G,* where instant framing was followed by gradual reframing, and (3) *I &* and *E,* where instant framing was followed by reframing through epiphany. In 5 of the 6 episodes interviewees reported pre-framing factors that served as a *preparatory phase* that facilitated framing: a) *Personal attributes*, *expertise*, which helped decision makers notice and interpret critical cues correctly in ambiguous situations, and *mental orientation*, which helped them to form appropriate expectations. b) *Priming*: warning signals which alerted their attention thereby facilitating the detection of the triggering cue. The process can be best understood by "walking through" the three interviewee flow diagram models presented in Figure 2. Together these summarize the dynamics of this pattern well.

Interviewee 9: This episode was unique in that the interviewee's Gung Ho mental orientation and resulting expectations triggered the appropriate frame "W" directly immediately during call up:

"I received the phone call at 2:30 am and I should tell you that I was happy...I was expecting it...we were frustrated that we had not been called yet...we

realized that a war was going on and we [in the regiment] did not wait for orders...we constantly took initiatives."

Interviewee 11: This interviewee's model illustrates the facilitative function of weak signals as priming factors and one of the two principal classes of trigger attributes, *anomalies* i.e., deviations from characteristic or expected attributes (the latter being the first class of attributes):

"We have known from the media that the regulars have been fighting for about a week so the call-up was not a surprise, yet, it was done outside the usual schedule.

Interviewee 7: This interviewee is a veteran Artillery brigade chief of staff with extensive experience and detailed familiarity with the Northern Command's war plans who participated shortly before the war in an exercise that closely simulated its actual outbreak, illustrating the function of *experience* and *priming* on facilitating the instant detection and recognition of the critical cues that triggered F_1 = War. The *fine grain* of this interviewee's War frame helped him both to frame quickly by identifying an expected pattern, and to reframe quickly to from F_1 to F_2 = War + by recognizing deviations from expectations (an *I & I* pattern):

"Very quickly it was evident that the operation was not serious...there was no clear direction, orders kept changing, the penny dropped once I realized that things were not working...some behaviors that I observed simply do not belong to war."

In conclusion, the *Instant* framing pattern is consistent with the SDMR model. The probability of fast correct, accurate, or appropriate framing is a function of decision makers' experience, expertise, and encounter with priming events before the onset of the framing process.

An interesting insight emerging from the graphical presentation of interviewee 7's process is that the Pre-F and Re-F segments of the timeline which precede critical cue

identification have the same function: alerting (or blocking) decision makers' attention thereby increasing or decreasing the probability of framing or reframing, respectively. This insight leads to the examination of the three illustrative episodes of gradual reframing process (Figure 2-b)
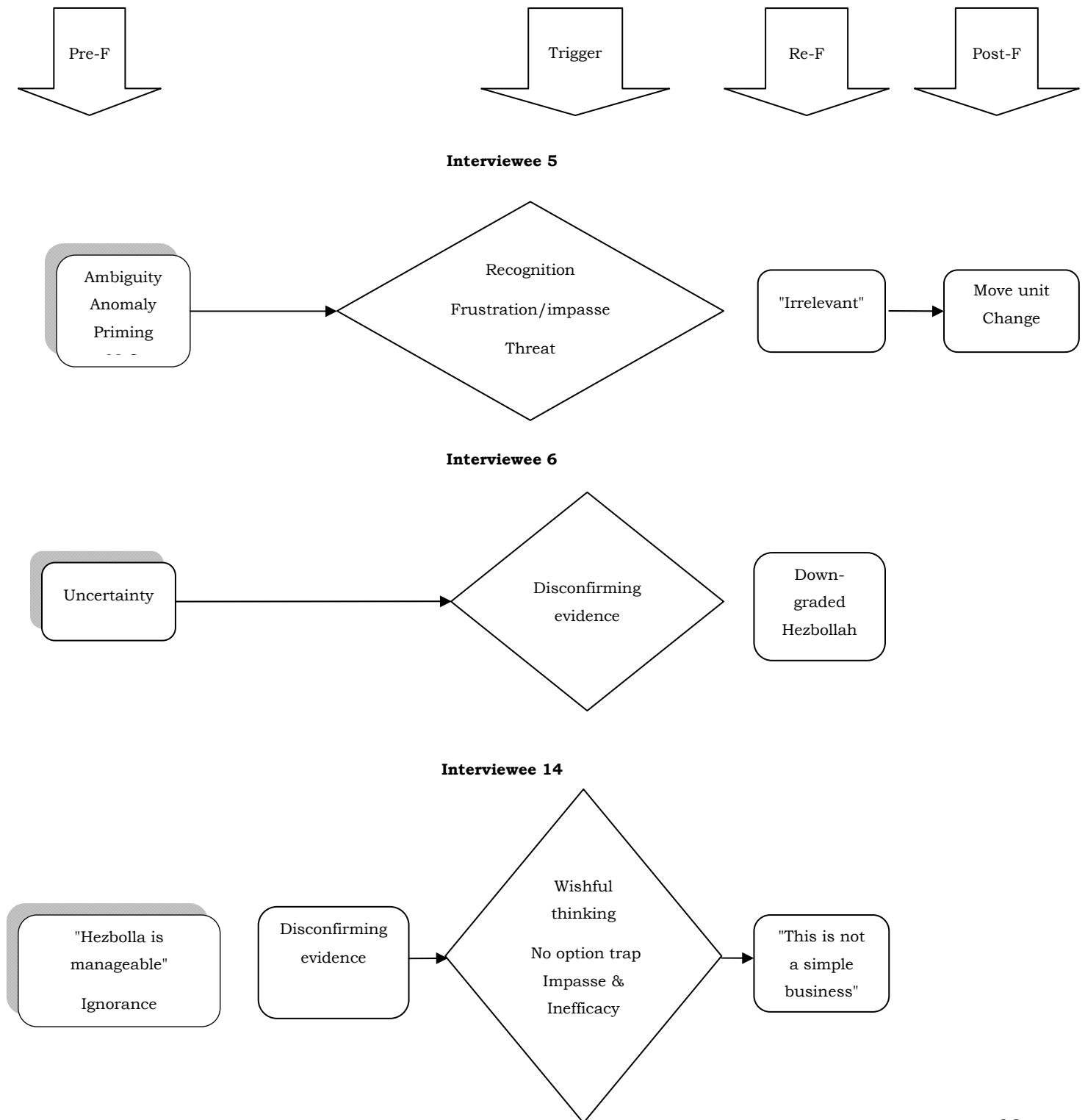
Gradual

Interviewee 5: This interviewee's episode of gradual reframing illustrates Weick's (1979, 1995) work on sensemaking and SchÖn's (1983) work on framing, as well as the role of *ambiguity and uncertainty, mental orientation, priming, emotion* (*threat and frustration*) and *anomaly recognition* in these processes.

The interviewee was an ordnance company commander who encountered unexpectedly intense state of ambiguity upon arriving at his unit's assembly area in central Israel: "During the week that we stayed there the place was practically deserted, there was no one to talk to." This *anomaly* activated both sensemaking (Weick, 1979), and reflection (SchÖn, 1983), which led the interviewee to conclude that he should not wait for directions but rely on his own initiatives, a lesson that *primed* him for the similar future situations.

Upon arriving to the Northern Command the interviewee *recognized* that (a) his company was too far from the front for providing effective support to the fighting units, contrary to his *mental orientation* of "effectively meeting every field unit's request for assistance" (*frustration*), (b) while at the same time still being vulnerable to Hezbollah rocket attacks (*threat*). (c) At the same time, similar to his experience in the assembly area, once again he encountered a vacuum as "neither the field units which he was presumed to support, nor his commanders "seemed to be aware of his existence" (*anomaly*)". Thus, following the *Penny dropping* that "at that position we were irrelevant," the interviewee first moved the ordnance company closer to the front and

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Figure 2 (Cont): Paths to Insight.

b. Gradual

Interviewee 5

Interviewee 6

Interviewee 14

then changed its his mode of operation (or strategy) from *passive/stationary clientele reception* to "*active marketing and service out-rich*" (my terminology) by collecting data on units requiring assistance in the field from soldiers and units returning back and sending trouble shooting technical in based on this information.

The interviewee re- *enactment* of his situation (Weick, 1979) was soon rewarded by a flood of incoming orders for assistance from field units who until then were not cognizant of his existence.

Interviewee 6: This interviewee reported on a successful all-night operation deep in Hezbollah terrain that he supervised from a rear command post. It demonstrates the triggering of reframing by *disconfirming empirical evidence*, particularly when associated with *surprise, uncertainty*, and optimal levels of *stress* and *emotion* (i.e., levels which stimulate decision makers' attention rather than freeze them rigid.

Starting with *uncertainty* and *apprehension* owing to potential detection of the raiding IDF units by Hezbollah forces, the, interviewee gradually relaxed as the hours passed by and the dreaded messages did not materialize until the operation's successful conclusion:

> "Hezbollah had no idea that our units were there while we followed their every move. To me that was a big favorable surprise. Hezbollah were not the invincible organization that we had believed. It was not unbeatable and superior to us because its fighters were fighting in their own area."

Interviewee 14: This interviewee's episode illustrates the intricate dynamics of emotions and rational, evidence-based reasoning in overcoming barriers in a gradual reframing process.

The interviewee's smug initial frame, "Hezbollah is a manageable problem," was bolstered by ignorance regarding the Hezbollah's true combat capabilities and

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resilience. The interviewee attributed his, ignorance to Intelligence officers in Northern Command who failed to inform him of the accurate Intelligence regarding these factors that was available to them:

"We didn't know because we had not received the information that most of this [Hezbollah] firing came from underground bunkers....So we gathered information [on target locations] and fired, assuming that if we' would shoot more and more fire we'll eventually stop them, not realizing that all our efforts were for naught."

As the immense volume of fire poured by the interviewee's regiment failed to achieve its expected result, (*disconfirming evidence*), the interviewee and other people in his regiment began to doubt the validity of their initial frame. Although supported by careful measurements compatible with best practices of evidence based management (Pfeffer & Sutton, (2006), the interviewee and other officers in the regiments still failed to reframe, handicapped emotions drove them to cling on to F_1 and by false hopes and misinformation that allowed them do it:

"After a few days everyone understood that our fire did not affect the volume of Hezbollah's return fire. We calculated the graphs [of fire volumes] and it [the ineffectiveness] was plain. Every soldier could see that we were not achieving anything....At the same time early on every one hoped that the infantry would soon go in and finish the job, and later we heard of Intelligence reports that our fire disrupted Hezbollah's operations, allowing whoever wished to believe that we were not entirely useless to do so (*wishful thinking*). Finally, we felt that we had no option: what could we do, stop firing" (*no option trap*)?

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The trigger that finally dropped the penny were the combined weight of the disconfirming evidence that continued to accumulate, particularly information regarding casualties that raised doubts about the War and its possible futility:

People both at the front and in the media understood that we were stuck, and as the recognition that this was not a simple business gradually dawned on them they began to ask questions such as: "Why should we go into this or that village? What's the objective?" Meanwhile we also undergo some unsympathetic experiences, for example, the event in Kfar Gilady (in which 12 soldiers were killed by a Hezbollah rocket) happened nearby to my unit, and at first I thought it was my own unit" (threat).

In conclusion, similar to the *Instant* framing pattern, the *Gradual* reframing pattern is also consistent with the SDMR model, that is, the factors that facilitate or hinder the adoption of a certain frame, play the same role in the transition from one frame to another.

Epiphany

Interviewee 3: This interviewee' began by contrasting his own high motivation with the I.D.F. 's poor planning ("I felt good because we were doing the right thing…that in two days the Air Force will finish the job … but bad because the objectives, methods and time table for their achievement were not clear to me. I felt going into something undefined" (*ambiguity*).

Similar to interviewee 14, interviewee 3 also developed a sense of *purposelessness* in light of his regiment's apparent failure to stop Hezbollah's fire.

"I felt that we were shooting into empty areas…making noise…it did not affect Hezbollah's fire…I felt we were 'working in neutral', divorced from reality; I was very puzzled" (*frustration, surprise*).

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The penny drops when a rocket hits and kills 11 soldiers nearby finally jolting the interviewee out of his initial complacent frame of the War:

"We were in our position with all our gear on for several days when 11 soldiers were killed hit and killed in a nearby position. That was awful. Eleven soldiers – your friends – die few meters from you – and you don't really know for what purpose.... Later that day some shells landed approximately 50 meters from our position – I was never so frightened in my life. All the regiment was driven into a state of insane vigilance.

As long as there are no costs you are willing to bear the burden without asking questions: sleep in the field and go without a bath for a week. However, once you realize there *is* a price, people, soldiers, your friends die next to you, the hard questions begin: What is the purpose? What are the objectives" (*threat*)?

Interviewee 4: This interviewee had to overcome two barriers: First, although he framed the situation as war, he did not realize that *he* and his regiment were already involved because he experienced only sporadic rocket attacks, whereas the critical cue for this situation in his frame was a massive rocket attack. In addition, As he became used to the sporadic falls, he and other soldiers in his regiment relaxed and reduced their vigilance (*habituation.*) His epiphany came with the Kfar Gilady incident (see interviewee 5 above) which occurred very near to his regiment's position: "That incident, and at the same time some other units were under fire too, led me internalize the fact that we were at war, many people died and were injured on that occasion" (*threat*).

Interviewee 8: This interviewee's episode underscores the importance of threat and relevance and pre-framing preparatory "unfreezing" (Lewin,) as necessary conditions for epiphany reframing similar to their role in the two other patterns of reframing.
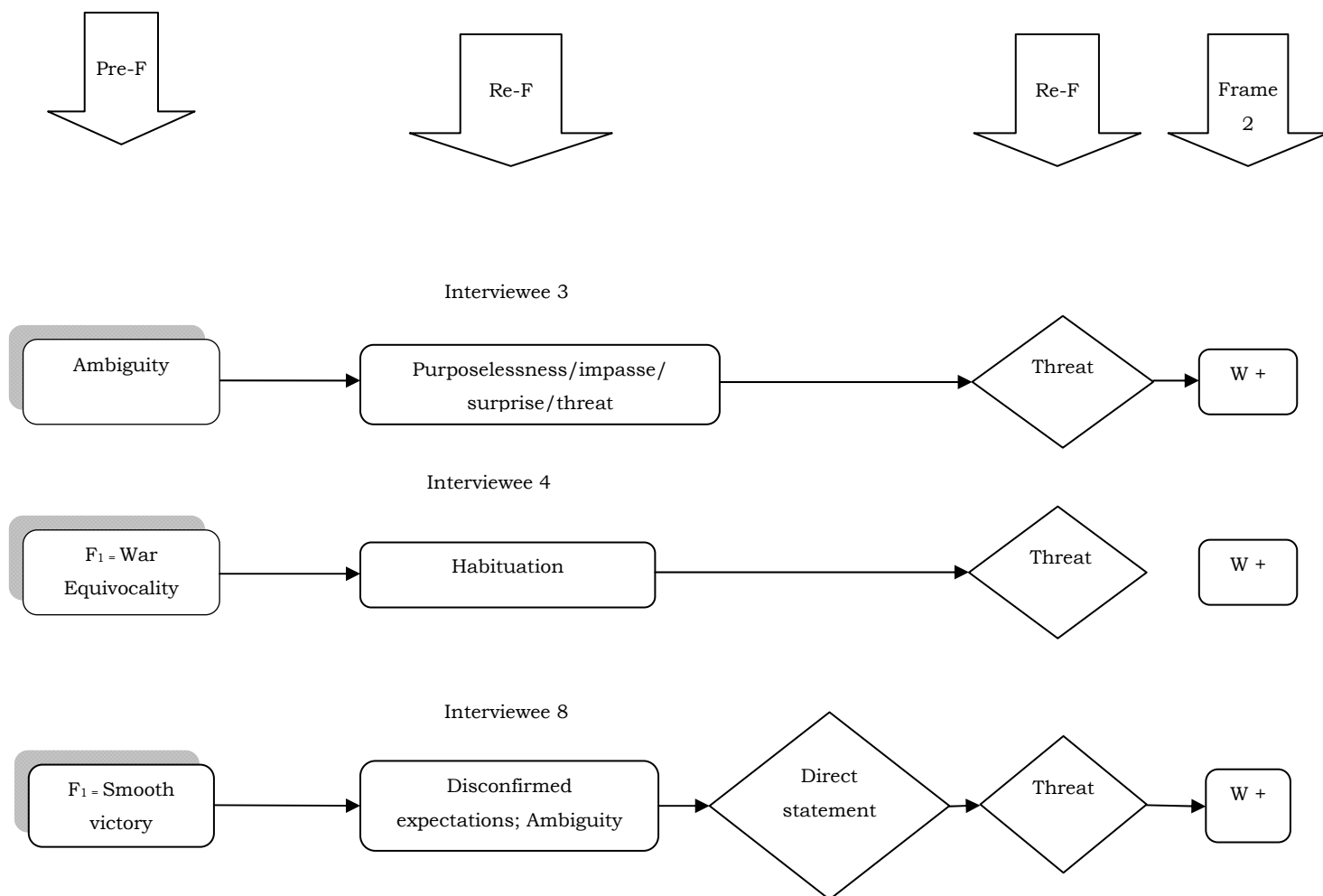
Beginning with an initial frame that: "To me it was clear that we had to go in[to Lebanon], and that it will end well, in victory." This frame was soon disconfirmed by evidence: Walking around in the Northern Command, I began to hear of regular and reserve brigades deep inside there...were not progressing as smoothly as anticipated" (*disconfirmed expectations*). After spending some time in the town of Kiryat Shmona "without knowing what's going on" the interviewee's Artillery regiment bivouacked for the night in an open field where "one could hear the sounds of the war, and rockets and shells fell from time to time causing apprehension....For the first time I felt in war, though not quite" (*threat*).

During a briefing at the Division's HQ, a high ranking officer warns that "There is going to be a battle and not everybody that is going in will return to come back;" leading the interviewee to think:"Well, this is war!! This is the first time that the interviewee refers to the experience of the penny dropping in the interview.

The penny finally (or definitely) dropped: "When we were told to prepare to cross over [the border]. This would have been far more difficult, operationally and logistically, requiring us to reorganize completely differently. Happily, in the end we did not have to do it."

Figure 2: paths to Insight (cont.)

c. Epiphany

Pre-F

Re-F

Re-F

Frame 2

Interviewee 3

| Ambiguity | → | Purposelessness/impasse/ surprise/threat | → | Threat | → | W + |

Interviewee 4

| $F_1 =$ War Equivocality | → | Habituation | → | Threat | | W + |

Interviewee 8

| $F_1 =$ Smooth victory | → | Disconfirmed expectations; Ambiguity | → | Direct statement | → | Threat | → | W + |

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DISCUSSION

This study was set off by a puzzle that presented itself as a paradigm case of sensemaking and reframing: Why did the I.D.F. Chief of General Staff during the Second Lebanon war apparently misconstrue its "true" nature n contrast to commanders and officers who reportedly managed to do it? Analyses of interviews with four officers and one soldier for whom the penny dropped during the war revealed three processes of framing or reframing the war correctly: *Instant*: *Gradual*: and *Epiphany*: In addition, they produced a model an inductively constructed model that integrated decision making Lipshitz & Ben Shaul (1997), sensemaking Weik (1979; 1995) and reframing (SchÖn (1983; SchÖn & Rein, 1994) around the concept of frames. The five principal attributes of the model are:

1. Framing is construed as an I/O process of replacing one frame by another triggered by critical cues associated with (and distinguishing between) different frames.

2. The probability and substance (frame selection) of framing and reframing are is a joint function of the person and the situation. In this sense the model is a special case of Lewin's (1943) fundamental equation B=f(P,E).

3. Framing and reframing are identical processes, i.e., subject to the same facilitative or blocking factors except for the requisite letting go of an existing frame in the latter case. (Note: it is actually reasonable to claim that framing never starts from scratch).

4. The person attributes that are relevant to framing are: (a) his or her mental orientation i.e. motivation and expectations; (b) general level of expertise and specific relevant training; and (c) past priming events that direct their attention to appropriate or inappropriate frames.

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5. The situation attributes relevant to framing are its degrees of *ambiguity* and *novelty* that obstruct the reframing process and (c) the existence of *anomalies,* such as surprises and disconfirmed expectations, which trigger and enhance sensemaking and critical reflection thereby facilitating it. Finally, (d) the situation must be perceived as *relevant* in order for the person to be *emotionally involved* which is a necessary condition for the person to *engage* in framing or reframing to begin with. Note that strictly speaking the situation attributes are situation x person interaction attributes inasmuch as the novelty ambiguity and relevance of given situations may vary for different persons.

The second phase of the study tested the SRDM model with the same methodology of its construction on a larger sample of 14 interviewees. Analyses of these interviews validated model and elaborated it by complementing the three processes of framing and reframing identified in the first phase, *Instant*, *Gradual*, and *Epiphany*,with a fourth process, *Persistence* of failing to reframe that supported by eight barriers to reframing which accounted for it compatibly with the SDMR model: Equivocality & narrow bracketing; (2) deficient or missing frame; (3) false priming; (4) inappropriate analogies; (5) information deficiencies; (6) emotional detachment; and 7) strategic considerations. These findings increased the five principal attributes of the SRDM model outlined above to seven:

6. The three superficially distinct processes, (*I*) (*G*) and (*E*) are basically variants (or phenotypes) of the same underlying three process (or genotype) consisting of *preparatory, impasse,* and *search* phases. The apparent distinctions between the three are created by the fact that in *Instant* processes preparation occurs takes place before the reframing process begins (and with minimal impasse),

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and in *Gradual* processes search (i.e., the reframing phase in Figure 1) fulfills preparatory functions.

7. The function of the preparatory phase is both cognitive (priming decision makers' attention to detect appropriate frames triggering cues) and affective (loosening emotional bonds to extant frames). In the latter respect, this phase is equivalent to unfreezing in Lewin's (1947) unfreezing – change – refreezing model of change.

As the term "epiphany" (a sudden realization of the true nature or meaning of a situation) indicates, reframing is closely associated with insight variously defined as "the clear and sudden understanding of how to solve a problem … [owing to] re-interpret[ing] or re-represent[ing] the problem by relaxing self imposed constraints (Bowden, Jung-Beeman, Fleck, & Kounios, (2005); "discover[ing]…a new conceptualization of the problem…without foreseeable warning " (Cronin (2004); and "a cognitive restructuring that dramatically changes how a problem or a situation is represented (Cunningham & MacGregor, 2008).

Interestingly, the basic structure of the SRDM model of (1) preparation, (2) impasse, and (3) search -> reframing corresponds to recent information processing conceptualizations of the *Eureka!* Effect (Cronin, 2004; Jung-Beeman, Bowden, Haberman, Frymiare, Arambei-Liu, Greenblatt, et al., 2004). The thrust of these researchers' models is that (1) knowledge (which in the SRDM is assumed to be stored in long term memory as frames or schemas) exists at different levels of activation; (2) thinking is "the process of activating knowledge;" (3) conscious knowledge (that is retrieved from LTM to working memory) is "active to the point of awareness" (Cronin, 2004, p. 19); (4) attention is the executive process of directing the spread of activation in the brain; and (5) insight occurs when the spread of

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activation is (a) wide (Jung-Beeman et al., 2004), and (b) uncontrolled (Cronin, 2004), thereby forming novel associations (i.e., ideas and solutions) between remote ideas in LTM. Using *fMRI* and *EEG* Jung-Beeman et al., (2004) mapped patterns of brain activity preceding and during the solution of insight problems and discovered a pattern remarkably similar to the three phase preparation - impasse – search/reframing pattern revealed in Figure 1. The intense brain activity signifying the moment of insight was preceded by brain patterns indicating first a phase of impasse followed by focusing attention on the problem and then its relaxation (explained by the final fifth clause in the last paragraph).

The present study contributes to four areas of research: reframing, sensemaking, decision making, and insight, most significantly through their integration in the SRDM model. Considered separately, the, SRDM model helps solve a relative absence of models (as distinct from rich evocative conceptual frameworks, e.g., Lipshitz, 2001). Klein et al.'s data/frame is somewhat similar, and the relative merits of the two models should clarified by future research. An additional contribution of the SRDM model is relating decision making to basic cognitive processes in general, and attention and memory in particular. The potential contribution to insight research is directing attention manifold and contingent paths to the insight, in the sense of the sudden emergence of novel ideas, depending on attributes of three factors, the context (situation), the problem, and the problem solver/decision maker and the interaction between them, and the importance of the preparatory phases in general and their emotional aspects in particular. Put differently: The process of insight is only seemingly sudden and by no means not only a cognitive.

Table 6 presents the applied implications of the study in the form of possible solutions to the barriers to reframing derived from the episodes of *Persistence*. Inasmuch as the solutions proposed solutions are conjectural, Table 6 constitutes a research agenda. The rationales for matching the different barriers with their particular solutions are as follows:

Equivocality & narrow bracketing: Four solutions can potentially help in managing this barrier: (1) Selection procedures based on personality and aptitude tests measuring variables related to innovativeness and rigidity e.g., alertness (Tang, Kacmar, & Busenitz, in press), and cognitive flexibility (Martin, & Anderson, 1998). (2) Training and expertise which improve decision makers' ability handle the information overload associated equivocality and thus interpret equivocal situations accurately (Lipshitz & Ben Shaul (1997). (3) Critical thinking which likewise improves the accuracy of interpretation through the detection and correction of errors in reasoning (Cohen, Freeman, & Thompson, 1998). (4) Use of Decision Support Systems (Lee, Courtney, & O'Keefe, 1992, an area with great potential that is still to be fully realized

Deficient or missing frame; Information deficiencies; False Priming; & Inappropriate analogies: These prescriptions follow the logic underlying the recommendations regarding equivocality: reframing problems attributable to deficient or absent frame repertoire can be corrected by enhancing the repertoire either through the training and the improvement of expertise or through aiding, i.e., expanding decision maker's cognition with external artifacts (Hollan, Hutchins, & Kirsh, 2000); the effective and efficient detection and diagnosis of these problems is improved by training in critical thinking (Cohen et al., 1998), and the use of DSS (Freeman, Cohen, & Thompson, 1998).

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Table 6 Overcoming barriers to reframing

Barrier	Solution
Equivocality & narrow bracketing (Weick, 1979)	Selection/Expertise & training/Critical Thinking/DSS
Deficient or missing frame	Expertise/ Critical Thinking
False Priming	Critical Thinking/DSS
Inappropriate analogies	Critical Thinking/DSS
Information deficiencies	Critical Thinking/DSS
Emotional detachment	Critical Thinking/DSS
Absence of a sense of impasse	Artificial crisis/ Critical Thinking
Strategic considerations	Issue Orientation

Emotional detachment: The motivation for the prescription to handle emotional detachment through the design of DSS (which may sound odd outside the background of the present paper) is the complaint of commanders and officers at the front, that commanders who formed their situation awareness or mental models solely based on information which they received from their "plasma screens" at some command post away from the action, were consistently "out of touch" and failed to grasp "what was actually happening on the ground." This phenomenon can be attributed to the "away group's inability to develop valid mental models activate appropriate frames and therefore failure owing to deficient *sense* of *relevance* induced by *distance & information poor displays* (Olson & Olson, 2000). The ergonomic challenge, therefore, is *developing DSS that transmit appropriate sense of relevance over distances.*

Absence of a sense of impasse: This barrier is generally more likely to occur in complacent environments (which discourages mindfulness) and to novice decision makers who lack the sufficient skill to identify the relevant triggering cues in ambiguous situations even when mindful. A possible solution for the first obstacle is the creation of artificial sense of urgency by setting clear short term challenging but achievable objectives (Schaffer, 1988), and for the latter, training in critical thinking (Freeman, Cohen, & Thompson, 1998).

Strategic considerations: Issue orientation is focusing on the issue or problem at hand without regard to the power, interests, or social standing of the source of available information, and weighing the implications of potential actions without regard to external considerations. Reframed bluntly, this prescription (based on Lipshitz, Friedman & Popper, 2006), states: "Keep hidden agendas and politics out!"

In light of two features that may limit the generalizabilty of study's findings, the small specialized sample and use of retrospective reports, the present study should be construed as a *theory building* exercise. Additional studies will test and elaborate the validity of the SRDM model e.g., by identifying additional pre-process elements (decision maker's attributes and priming events), and replicating the study in additional situations.

CONCLUSION

Back to the Second Lebanon War: This study was triggered by a sense of puzzle: How did commanders and officers succeed to construe the "true nature of the Second Lebanon War whereas the I.D.F Chief of General Staff failed to understand it despite the fact that the latter presumably had possessed better information ("The big picture") and, more importantly, away from the combat zone and its life threatening dangers, was presumably subject to lower stress and ambiguity? While testing the validity of

these assumptions may, in fact, be a worthwhile subject for another follow-up study for this research, it is possible to use the barriers to reframing identified in it to suggest some informed hypotheses regarding General Halutz's failure to reframe.

Five barriers must be ruled out from considerations first, equivocality is too general, and narrow bracketing, false priming, inappropriate analogies, and strategic consideration require direct data on Halutz's reasoning processes. Finally, information deficiencies are inapplicable because as Chief of general Staff Gen. Halutz had more and better information than his subordinates in the field. This leaves three barriers as potential source for conjectures:

Deficient or missing frame: It is inconceivable that as the I.D.F. Chief of General Staff, General Halutz did not have F_2, the retrospectively "correct" frame for the second Lebanon War in his frames repertoire. The alternative explanation, that a competing frame for conducting and winning the war was more dominant (i.e., had a lower activation threshold) for him seems more plausible. In other words, The Air Force General Halutz, recognized that Israel and the Hezbollah were engaged in a "war," which he (erroneously) believed could be won entirely from the Air without risking costly entanglement on the ground. Exploring this hypothesis goes beyond the scope of the present paper.

Emotional detachment: Coupled with essentially being trapped in a dysfunctional "Air-war" frame" this may very well be Halutz's second most significant barrier. He was the first ex Air Force commander to become Chief of General Staff in the history of the I.D.F., and had apparently been appointed to import the Air Force's vaunted culture of reliability, order, and accuracy to the I.D.F. at large. Instead he is obliged to command it in a war that neither side anticipated or wanted, and which his training and long time career did not truly prepare him to do. Halutz could not, and did not really understand the war, and his hubris prevented him both from admitting it or seeking proper help.

Absence of a sense of impasse: Almost inevitably, this barrier resulted from the syndrome conjectured in the previous paragraph, showing that a sense of impasse is as much a function of the decision maker's subjective perceptions as of his objective situation.

NOTES

1. For some reason Weick's work is not as influential in communication where sensemaking is associated with Devlin (2003), who in turn is virtually unknown in the circles where Weick is virtually a guru. The two have not referenced one another, to the best of my knowledge.

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