Habit as Non-addiction: 9
Mediation of Mental Signs

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Introduction:

An initial distinction must be forged here between habit, on the one hand, and “replica-building”, on the other. Habit as it is experienced, however, certainly can give rise to replica-building, in that it may lead to a constructive end. Consequently, the two processes may not necessarily oppose one another. Habit has the potential either to limit itself to base bodily actions (Lakoff and Johnson 1999: 27); alternatively, it may tap and engage individual constructive consciousness. In the latter case, habit emerges not merely as a static series of chained behaviors, but may stir and enrich accepted or acceptable modes of proceeding. While habit constitutes a rather automatic implementation of behaviors bound inextricably by convention or by idiosyncratic preference, “replica-building” (although not always conscious) reorganizes automatic action schemes into schemes, which are less intrinsically bound into a bundle. The reconstructed behaviors which belong to modified schemas drive still further this regenerative process, inherent to “replica-building”. Cause-effect relations between behaviors and events are characteristic of early instances of “replica-building”, such that purposeful behaviors contribute to a particular goal—conduct is not merely a form, but a function. In this way, the path of the set of behaviors is more likely to be conscious.

Although habits are often compulsive/obsessive, they need not altogether exhibit an absence of control. Those habits, which are, in fact, compulsive often result in a lack of control, especially should one wish to extinguish them, e.g., biting one’s nails. Still other habits rise to obsessive proportions, especially when driven by strong affect, e.g., visually fixating on every human to seek attention. Habit, in common parlance, is often associated with deleterious conduct, or at very least, with unpleasant/damaging effects, as in contracting an illness consequent to frequent hand touching over or near the face. If the habit becomes compulsive, it opens itself to an obsessive nature.

Early Physical Habit Schemas:

A large proportion of early habits serve as points of departure for social...
and individual growth (cognitively and affectively). Accordingly, determining and implementing habits initially constitutes a primary means to reach out to the world, literally and figuratively. First children build sensorimotor schemas—behaviors associated with certain objects and events for particular purposes (Piaget and Inhelder 1966: 19). In so doing, children discover what can be employed as an aggregate to achieve success, e.g., eye-hand coordination in targeted reaching for an object for successful grasp. Later, replica building and skills beyond replica building emerge to construct novel schemas. Replica-building is a form of imitation (hence the use of replica) of others’ action schemas; and building further entails, at minimum, reproduction and accommodation of conventional action schemas. The use of habit in constructive genres underscores the fact that it is merely a point of departure to develop higher cognitive competencies. It does not necessarily result in addiction. Hence habit advances physically bound schemes to higher order non-replica-based schemes. In this way, habit neither leads to destructive, addiction-based behaviors, nor to irrelevant behaviors, which later fall away. In short, habit serves as a foundation upon which propositional thought is developed.

A distinct semiotic influence on the acquisition of habits rests on the conviction (upon extensive observations of children’s interactions) of the primacy of index in establishing habits. Ultimately, Index likewise is a primary determinant in the formation of abductive reasoning skills. Many early behaviors are dependent on Index to surface. In fact, Indexical relations constitute the first competencies underlying the associations between and among objects, and is foundational to the formation of relations between behaviors and their outcomes. In fact, Index is the first representation of object files. Between 0;6 and 0;7, when object files are developed (mental constructs of perceptual and functional attributes of objects), what is initially associated with the file is the location of the object (Leslie et al. 1998: 11). Such is the case even prior to the inclusion of shape or color. In other words, where shapes and color are located is most salient to the identity of objects at early ages. Moreover, Index becomes still more entrenched with greater frequency of notice of place related features. This habit of focusing on location before focusing on other properties such as color, shape, or other functional features, supports the claim that the formation of habit requires spatial contextualization.

Moreover, the influence of Index–based schemes goes beyond effects on sensorimotor schemes; they extend to abductive competencies, which incorporate socially-mediated and cognitively-mediated signs. Still, Indexical use is limited to habit at early ages; but thereafter, habits become redistributed, disentangling behaviors, which appear, at first glance, to defy any disconnect. In this way, disturbing or disrupting established behavior patterns likewise has a regenerative effect.
Disruption in idiosyncratically or conventionally established bundles of behavior results in rebuilding more complex schemas, which otherwise may never have materialized. The rationale is that since conforming to the status quo fails to challenge the appropriateness of behaviors, the behaviors are unlikely to ever be reconfigured. A more generative approach requires using Index to amplify the bare simplicity of the habit (physically or affectively)—to claim, at very least, some semblance of analogue-based inquiry on a higher plain.

Index, from its inception, traverses from physical habit, to mental habit, to social habit, and beyond. While this developmental progression describes human ontogeny specifically, it need not be restricted to our species. Indexical schemas are produced early by chimps (Tomasello and Call 1997: 28-29). In the case of humans, targeted eye gaze toward another’s face at 0;1 and earlier has been documented (Meltzoff and Moore 1977: 75; Meltzoff 1995: 847-848). These findings support the early use of visual Index for social or proto-social purposes.

At approximately 0;4 eye gaze becomes coordinated with reach, such that vision directs reach toward obtaining objects. Such represents two coordinated Indexes—directed gaze, in turn directing reach. This action scheme illustrates the importance of quintessential early Index(es), in that looking is targeted, which likewise provides the movement trajectory for successful reach—extending the hand and arm non-ballistically to grasp the intended object. A habit—a sequential (chained) set of behaviors—materializes upon sufficient instantiations of grasp using the same behavior pattern. Thereafter, replica behaviors, mere images/imitations of in this case self-initiated schemes, emerge. Afterward, similar schemes surface upon modification of original action sequences, e.g., reshaping the hands to accommodate attainment of objects distinctive from those previously grasped. Hence, success at scheme orchestration/modification is pivotal, in that it establishes the impetus for the habit, or (in the case that success is not forthcoming) the habit is not as likely to be entrenched. Accordingly, apprehension of similarities between objects of the original schema and subsequently experienced objects (either perceptually and/or functionally) can determine whether the same action scheme is applied to both. These comparisons appear to surface when children are able to remember sequences of events, within the latter half of the first year (Meltzoff 1988: 474-475).

To illustrate, objects similar in shape are likely to elicit the same hand shape for successful grasp, as in curling the hand to access a cup or a ball, rather than using a less effective hand shape, e.g., inserting the hand beneath the objects to lift them. In this case the similarity is perceptual, both are rounded. Afterward, children make accommodations to their schemes when reaching for distinctively shaped objects (Piaget and Inhelder 1948: 455). Still, Index guides the hand with directed gaze both to make precise the objects location for reach and to highlight the
object’s shape for hand shape accommodation.

Pointing represents an additional Index, which capitalizes on the directionality of visual attention. Habit here is still alive and well – it establishes an interplay between attention and the place of the object under focus. Pointing to objects initially reveals individual, not social attention, since children do not look for confirmation from another when directing their gaze at 0;8 (Bates 1976: 61; 1979: 34). But, soon afterward (at 0;9) children seek another’s confirmation when pointing; they produce a directional chain of: looking at the object, then fixating on the interlocutor, and afterward they again direct their gaze toward the object in question (Bates, 1976: 303; 1979: 34). At the outset, pointing is for the child alone; but, after 0;9 it becomes social, seeking others’ attention and/or requiring their approval. The visual interchange between the child and the interlocutor here marks the inception of more socially based indexes, given the bidirectionality of the visual Index. The presence of the object under focus, together with the interlocutor, evinces two Indexes, both pointing and gaze to unite the schemes spatially. Of course, the fact that the interlocutors and the referent objects co-occur (that they exist in the same space and time) militates in favor of the use of Index over other signs. It is evident here that unidirectional indexes with their behavioral counterparts become bidirectional indicators, demonstrating the evolitional influence of Indexical signs in the formation of increasingly more complex action schemes. In this way, habit resurfaces on a higher cognitive level, incorporating critical social validation strategies in the mix. In short, indexical use begins with interaction within the physical world, extending to schemes in which social monitoring is primary.

Early Social Habit Schemas:

Giving and receiving exchanges, especially illustrated in play interactions, become (likewise at 0;9) the forum to express social monitoring via Indexes such as: joint eye gaze and joint pointing. This forum serves as an indexical scaffold upon which social monitoring develops still further. The purpose for social monitoring gives rise to the infusion of role-taking into the exchange, such that Indexes no longer are restricted to confirmatory uses; their function extends to practice within several roles: agent, receiver, and the like. Index then heralds the assignment and assumption of shifting social roles, which functions as a precursor for the implementation of conversational role-taking.

Index (via joint gaze and joint pointing) likewise validates the continued existence of objects despite the fact that they are not visually apparent. In other words, the use of visual Index brings the absent present, such that referring to an absent object by means of pointing to its ordinarily assumed place reasserts the integral place of the object in the
physical context and in social exchanges. The schema, which issue from this semiotic advance result in new habits which represent the inception of mental signs. Hence, the semiosis of Index lays the groundwork for the development of mental and higher order habits. In sum, in looking and pointing to objects, which are not in the spatio-temporal context, children indicate their expectation that the object be present. For this reason, these indexically driven habits constitute mental replicas of their physical instantiations.

The semiosis of demonstratives likewise demonstrates a transition from the use of mere physical habit schemes to those encoding social roles. When “that” first appears in children’s corpora, it is restricted simply to egocentric meanings, i.e., referring to children’s own unidirectional object focus, without consideration of the object’s location relative to persons or other objects (West 2012: 285). This use illustrates idiosyncratic attention to any object in the environment, without differentiating social or psychological space (West, in press). The next step in the reconfiguration of the habit is implemented when children use “that” as an Index to refer to noticed absent objects, because “that” indexes without directing the attention immediately to the object in question, but to its associated location. When demonstratives emerge, they often replace or reinforce other visual Indexes (pointing, gaze) within the scheme; as a consequence, the structure of the habit becomes more Thirdness-based, in view of the legisign-based use of “that”. The semiosis of “that” as an Index reveals an unfolding from its use as a sinsign, to its function as a legisign (West 2011a: 672). Its sinsign application intimates that the habit (as expressed through two coordinated, visual indexes—gaze and pointing), requires the physical instantiation of the object, securing its place in Secondness.

Using “that” to index absent objects marks still another advance in reorganizing spatial schemes and in reconfiguring the established habit. This reorganization and reconfiguration violates the original habit (“that” referring to present objects), disrupting its presuppositions, if not the associated entrenched behaviors themselves. The presuppositions, which are violated consist in use of “that” only (without its counterpart “this”) to refer to any object of focus, without encoding its relative location with respect to speaker. The replacement schema extends demonstrative use to “this”, taking note of relative distance from the speaker as origo (West 2011b: 95). “This disruption does not result in any significant disturbance; rather, after some time for accommodation, representational maturation makes its way onto the scene, which drive indexical signs to become mental and social. The use of “that” to refer to absent objects then, marks the transition to a social use, that which incorporates conversational role-taking” (West, in press).

When children begin employing demonstratives contrastively, such that the relative distance between object and speaker is implied,
socially determined roles are encoded in conversational ones. This latter advance in the use of the demonstratives is prefigured by the productive use of pronouns “I” and “you” at 3;0, given their implicit distinction between the roles of each speech partner, speaker and addressee (West 2011b: 95). Such marks the threshold when social role-building gradually emerges. When “I” and “you” are employed to indicate the speaker and addressee, respectively, their use is reducibly indexical in Short’s (2007: 90) sense. “I” and “you” are reducible by virtue of their general meaning as conversational participants, independent of the particular person who assumes the role. The reduction lies in the fact that the meaning accorded to the sign (the person pronoun or the demonstrative) is not tantamount to the physical instantiation of the referent object. To illustrate, because “I” refers not merely to the particular person using it, but, to the role/purpose of that person in the conversation, and even to his/her role in the event being narrated, it is reducible. It would not be reducible if “I” were interpreted to be ego only or any other person only, without its general meaning. Similarly, demonstratives would not be reducible were a general meaning not intimated, e.g., when “that” is used to refer to any object of the user’s focus, independent of the referent object’s location from origo. Nonetheless, upon associating each pronoun/demonstrative with its respective implicit general meaning, children apprehend that the meaning extends to a conversational slot, which can be filled temporarily by different parties, even inanimates with inherent fronts and backs (West 2011a: 676). The appearance on the scene of this social component represented in the use of indexical legisigns to embody shifting roles, clearly illustrates the replacement of some functions of physical signs in favor of linguistic ones. The instrument employed instructs others that message conveyance can be effectively made via linguistic behaviors, not by visual schemes alone. Habit here obviously acquires heightened modes of representation, together with more complex meanings (Interpretants). Hence, the representamens are less restricted to visual representations (as in pointing); they, nonetheless, surface as mental signs (memories of differing stripes) and as verbal signs, namely, indexical legisigns.

**Departure from Habit:**

Pretense constitutes another representamen, which reaches elevated, mental forms. For this reason it is a fertile forum to measure how schemes in ontogeny are altered in favor of higher order schemes. The alteration of these schemes likewise demonstrates how lower order habits based in physical action and representations acquire legisign-based uses. Examining shifts in modes of pretense is a particularly useful enterprise because it demonstrates, along with reference (via pro-
nouns and demonstratives) to absent objects, early representational shifts. When children pretend that an object/behavior is present when it is not, it is evident that mental representations (in the form of memories of the object) underlie the reference, not merely visual ones (gaze, pointing). In fact, the representamen of an imaginary object cannot be visual only (pointing), it must take the form of, at very least, a retrospective memory of the object within that context. Harris and Kavanaugh’s (1993) experimental design and findings can provide some insight into the process. Were imaginary tea poured onto a toy pig (as in the study), young children (of approximately 2;0) would need to reconstruct the image from their retrospective memories. If they are unable (since such experiences/observations never materialized), children’s responses might not be readily forthcoming, given the lack of mental representation. If children are able to construct representations using modified schemes (via prospective events which they, themselves generate), responses should be readily forthcoming, since the pretense is not hollow; it rests upon firm mental representations.

In fact, the ontogeny of pretense appears to undergo two primary revolutions: from using a counterfactual vs. factual rationale founded upon retrospective memory representations, to questioning whether the event represents a possibility, and finally to the notion that if impossible now, mental travel in space and time can make the event materialize either subsequently or in the imagination. The initial means to pretend is operational by 2;0 (Harris et al. 1993: 26-33; Rakoczy and Tomasello 2006: 563). In the latter study, children were asked to determine whether certain behaviors orchestrated by adults were “Silly” or “non-silly”. Infants more often imitated the silly behavior, indicating (according to Rakoczy, and Tomasello) that they were able to discern the difference between factual and counterfactual events.

What is “silly” for two-year-olds may merely include those behaviors, which are novel, or which have never been experienced by the subjects; hence, factuality and counterfactuality may not have measured. Nonetheless, the factual/counterfactual rationale in the pretend arena is dichotomous, in that children at this age merely distinguish between an event, which is factual and one which is counterfactual. Many pretense scenarios do not match already experienced events; consequently, early on, they are often believed to be counterfactual, since children have not themselves experienced the events. Once children ascertain the next level of rationale for non-existent events, namely what is possible, after 3;0, they employ a modified set of schemes to reason about the veridicality of events. Accordingly, they digress from the original habit, which determines veridicality based on experience alone. Ultimately, when children rely on their own constructed episodes, on mental representations which depict place and time travel from the present, permitting origos not restricted to self, here, and now, veridicality
can be separated from the issue of possibility, and schemes of pretense are no longer confounded by experience. This unfolding from: using Index to indicate absent objects to its use to refer to absent events demonstrates progression from simple mental events dependent on retrospective memories, to event construction not reliant on access to existent events. At 4:0 and thereafter, children engage in mental time travel (Tulving 2005: 7); and in so doing, they become liberated from restrictions imposed by haecceity—issues narrowing the scope of person, space and time to ego, near space/objects, and to the time of the speech event. This progression from haecceity and mere dichotomous categories of events to incorporate increasingly more amplified arrays of origos, places and times obviates the necessity for habit in the development of higher order reasoning.

Furthermore, the latter set of skills lies at the heart of the development of modes of inference, which C. S. Peirce terms “abductive” reasoning (CP 5.181). A primary component of abductive reasoning for Peirce is “recommending a course of action” (1909: MS 637: 12). “Recommending a course of action” for Peirce requires proffering a spontaneous suggestion, which constitutes insightful problem-solving for the benefit of another origo (CP 5.538). Such reasoning is to be without deliberation (CP 5.181), and must consider a remedy, which would function well in light of knowledge of the particular epistemic and deontic characteristics specific to the party to whom the recommendation is made. This degree of logic may initially rely on direct, lived experience to develop the conjecture upon which the abduction rests (cf. West in press for further discussion of this issue)—thus highlighting the primacy of early habits in constructing higher order reasoning. This accounts for how it is that pretense schemes are perceived first as events, which have or have not happened to ego. These schemes then move to events which may/can happen to ego; and they conclude with events capable of happening to certain others, given their epistemic and deontic propensities.

Conclusion:

Habit often does not translate into addiction. Rather, it is a necessary foundation, which contains the seeds for novel constructions, especially when fueled by curiosity. In this effort Index has an incontrovertibly pivotal role in the ontogeny of more advanced reasoning. The instruments which chart our path toward person, space and time “travel” are indexicals: visual gestures, person, space and time deictics, and event structure representation and reasoning. Accordingly, physical or mental schemes which become habit, bring us to increasingly higher levels of indexical use; and despite the necessity of habit in the process, it must loosen its hold in favor of implementing more creative, more con-
structive procedures. One of the factors which disrupts habit toward intellectual and affective advances is nothing short of curiosity. Curiosity then, is critical, not merely in formal learning genres; its utility may be still more primary in realms of conversationalizing and in forming judgments regarding everyday events.

When physical contextualization of sign use becomes less primary, and when mental time and space travel are operational, children can transcend their own lived experience to determine the veridicality of events. Often it is the habit of lived experience, which restricts advances toward replica-building and beyond. The means to construct out of habit other non-formulaic combinations of behavior/episodes, is paramount, since it disrupts habit. This disruption, in turn, ensures that habit does not remain frozen, hence precluding in-roads for curiosity to intervene. Frozen habit can never hope to foster inferential logic nor the imagination. Rather, it is Index which operates to advance children’s appreciation of others’ diverse mental states, a primary ingredient in recommending a course of action. Children come to view events episodically through different lenses from distinct individual’s perspectives. Because, the appreciation represents not merely opposite viewpoints, but shades of epistemic and deontic differences gradient to each person, appropriate courses of action can be recommended.

Habit, then, is not addictive, in the sense that it leads us to a static place; but when it is infused with affect, it brings us to the threshold of abductive logic. Habit though is not devoid of either intellect or affect, especially as embodied in curiosity. It can be said that habit drives curiosity, and the reverse can be affectively driven but also cognitively driven, given the non-static notion of habit to construct other worlds, other imaginings. Habit must be developed; otherwise it will result in unanalyzed chunks of conduct, remaining sterile and resistant to impingements of curiosity. When used as a point of departure, habit serves as the necessary foundation to which it was called.

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