

# *Prof. Rex Li's Writings*

**Category:** Education

**Sub-category:** Gifted Education

**Code:** Edu 01 – 006

**Title:** Dai's Integrative Position and Methodological Questions  
(p.64 - 73)

**Year Written:** 2021

**Summary/ Abstract:** Dai (2010: 64-73) aims to offer an interactive, transactional and multi-path model of giftedness. There are methodological problems and the model is still in progress.

© Rex Li 2022

All rights reserved. To quote or cite, please acknowledge the author (Prof. Rex Li) and source of retrieval from this website ([www.profexli.com](http://www.profexli.com)).

For quotes or citation of over 100 words, please write to the author for written permission.

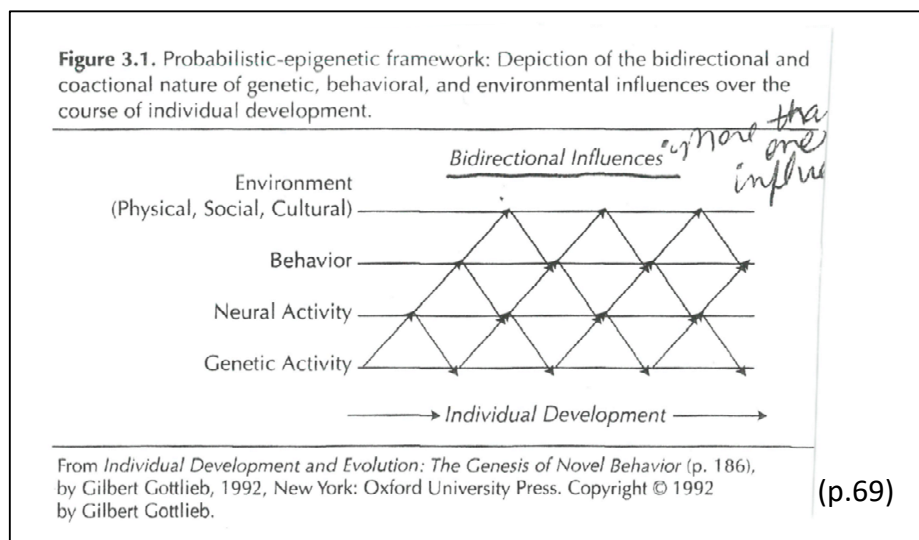
## Dai's Integrative Position and Methodological Questions (p.64 - 73)

### 1. Dai's Position

He examines both sides and sees that neither side can convince the other nor put forward a definite conclusion (necessary and sufficient condition) based on scientific data. On the whole he rejects the either-side essentialist model and favors an interactive / transactional / multi-path model of giftedness and eminence (intellectually gifted, motivationally gifted, doing, vs being in natural endowment)

Overall, there does not seem to be a single "gifted" core that unfolds over time to manifest itself in "gifted children." Just as some may be "intellectually gifted" and others may be "motivationally gifted," some children are gifted by natural endowment (being), and others become "gifted" through interests and dedicated efforts (doing/becoming). Sources and ontogeny of high human potential or promise seem to be too diverse to fit into any essentialist theoretical model. (p.64)

R: This is expected, as Dai also quoted (p.69) Gottlieb's epigenetic framework (1992). Point is how to describe / explain the impact / develop from 1 level to the next level. Is there a grand theory or localized theory at each level?



## 2. Giftedness in Person-task Interface than in the Brain (p.64)

R: The situative intelligence does not lead to productive / creative thinking

Task Environment:

that is, a task environment not only allows you to exercise certain sensibilities and capabilities useful for achieving the task goals, but also structures and shapes your sensibilities and capabilities to meet the demands imposed upon you. (p.69)

## 3. Methodological Issue (1) Prediction vs Backtracking

Terman (1925) started this research paradigm. More broadly, any studies that first determine predictor variables that define a subgroup or subpopulation and then use a set of criterion measures to validate the predictors belong to this type of research. Most of the gifted-“nongifted” comparative studies share this family resemblance.

In contrast with this prospective, predictive mode of inquiry, the looking-backward approach used by the expertise researchers is a three-step “backtracking” mode of inquiry: (1) Superior expert performance is captured and reliably documented in the laboratory using tasks representative of core activities in the domain; (2) process-tracing method and measures are used to identify mechanisms that mediate the reproducibly superior performance; and (3) the factors responsible for development of the mediating mechanisms are studied by retrospective analysis of training activities, such as deliberate practice (Ericsson & Williams, 2007).

For predictive studies in behavioral sciences, any prediction that is made is by nature probabilistic, not deterministic. Therefore, the threshold for a “proof” is low: As long as the researcher establishes some respectful predictive efficacy of certain predictor measures, she can declare success. Besides, longitudinal, predictive studies cannot be too specific about what outcomes will be and what intermediate processes are involved.

Consequently, the best answers to the question of why some individuals end up in the “eminence” study is to study these individuals who have made eminent contributions, not the group of children who are identified as most likely to achieve eminent contributions. (p.66-67)

## 4. Methodological Issue (2): Trait-level Description

VS process-level explication

TBC p.67-68

5. **Dai's probabilistic - epigenetic position (p.70)**

*.. From a bidirectional view of development subscribed by the probabilistic-epigenetic theory of development, gifted potential is not an inborn quality to unfold but fundamentally emergent through experiences and development, subject to further change, for better or for worse.* (p.70)

6. **A model with structure, function, person and process (p.71)**

From a scientific point of view, the current problem regarding the nature-nurture of giftedness is the lack of intermediate models, that is, models that connect and integrate being and doing/becoming, and the person on the one hand and social and developmental contexts on the other. Gagné's (2004) DMGT model of how giftedness (i.e., natural endowment) gets "transformed" into systematically developed talents in culturally valued domains does not contain any specification of fine-grained intermediate processes and levels (e.g., how exactly the transformation takes place). In hindsight, the field of giftedness research is deeply rooted in faculty psychology and the psychometric tradition (including mapping human abilities through the factor analytic technique; e.g., Carroll, 1993). It has limited communication with modern cognitive psychology that emphasizes the transformational power of knowledge representation in reasoning and problem solving (Ceci & Liker, 1986; Chi, Feltovich, & Glaser, 1981), and modern developmental psychology, which emphasizes a systems view of development (Bronfenbrenner, 1989) and dynamic skill development situated in adaptive contexts (Fischer & Bidell, 2006). Going beyond psychometrics (and population thinking) to make truly developmental-differential accounts of gifted development needs support from modern cognitive and developmental psychology and from cognitive and affective neuroscience (e.g., Panksepp, 1998). (p.71)

7. **Intentional States (p.71-72)**

