

Recent Changes in Representations of Apical Termination in the Baum Test

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バウム幹先端処理に認められる時代的变化について

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Abstract

This study aimed to examine the representation differences of the Baum test from university students in the 1970s, 1980s, and 2010s from the perspective of apical termination. A total of 3,000 drawings from the three groups were rated and analyzed using Kishimoto's and Okuda's indices. The results showed that the representations of apical termination had changed over the decades. In particular, comparing the 2010s to the 1970s, there was a decrease in differentiation (i.e., shapes the orientation from the trunk to the branches), while there was an increase in the tree-crown-outline (i.e., covers the top of the trunk with outline stroke). This represents a change in the location of conflicts in the relationship between the self and the external world. Nonetheless, the impact of the times of the Baum test representations should be interpreted with caution, and work to update our knowledge on the matter should continue.

Keywords : Baum test, changing time, apical termination, university student

要 旨

本研究の目的は、1970年代・1980年代・2010年代に大学生が描いたバウムテスト表現の違いを、幹先端処理の観点から検討することである。3つの年代のグループから収集した計3,000のバウムを、岸本と奥田の指標および視点で評価・分析した。その結果、幹先端処理の表現はこの数十年で変化したことが明らかとなった。特に、1970年代と比較して2010年代では、分化（幹から枝へ方向を形作ること）が減少し、包冠線（幹上部を覆うこと）が増加しており、これは自己と外界との関係における葛藤領域の変化を表していると考えられた。ただし、バウム表現の時代的影響は慎重に解釈されるべきであり、この問題に関する知見更新の作業は継続されるべきと考察した。

キーワード : バウムテスト、時代の変化、幹先端処理、大学生

I. Introduction

1. Baum Test

The Baum test, otherwise known as Koch's tree-drawing test, is a psychological assessment method developed by the Swiss psychologist Karl Koch (1906-1958). This assessment method, which has often been categorized as a projective or drawing method, is used worldwide. The usefulness of the test has also been recognized in several countries. Some technical and theoretical monographs on the Baum test have been published in French (e.g., D. de Castilla, L. Fernandez, and R. Stora) and German (e.g., U. Avé-Lallemant, C. P. Hammon, and C. Waser), but the only major work in English was that of Bolander (1977/1999). Thus, I will briefly explain this assessment method to begin this paper.

In 1949, Koch published an 88-page Baum test textbook in German (Koch, 1949; English edition in 1952). He then published the 246-page second edition in 1954 (Koch, 1954) and the 258-page third edition in 1957 (Koch, 1957/2010). The textbook has been translated into eleven languages, including Japanese. However, some translated editions of Koch's first edition in 1949 consist of an exploratory analysis (Sado, 2011a). Koch's third edition, which drastically revised the first edition and added important findings from his extensive developmental research, is his definitive monograph - as he passed away in 1958.

The Baum test is uncomplicated; the only needed materials are a pencil and a blank piece of paper, and the test instruction is simply to "draw a fruit tree" ("実のなる木を一本描いてください" in Japanese; "zeichnen eine Obstbaum" in Koch's original in German).¹ Despite the test's simplicity and noninvasiveness, the Baum (i.e., the drawn tree image) provides extensive information about the client's personality, including developmental traits, psychopathology, attitude toward the "Umwelt" or one's natural surroundings, and so on. According to the classical interpretation (Kuniyoshi, 1970), the interpretation of the Baum has three aspects: i) a holistic analysis based on the impression and pattern obtained from the entire Baum; ii) a form analysis using indices that aim to capture the morphological-partial traits of the Baum; and iii) a dynamic analysis using knowledge from graphology. Most of the findings from quantitative studies have contributed to the development of the second aspect, form analysis (Sado, 2013). In addition, many articles have proposed numerous indices for understanding Baum traits. Upon

creating the test, Koch himself created 58 indices based on his developmental research with children.

In Japan, the Baum test was first conducted in 1960. It later became the most frequently used psychological assessment method in clinical situations from 1990 to 2010 (Ogawa, 2011), and more than 1,000 Japanese articles on it have been published to date (Sado, 2011b; Hirata et al., 2017). In the late 2000s, a movement to review the Baum test began. Kishimoto (2015), one of the main players in this movement, emphasized the *attitude* of interpretation - perhaps, his point will eventually be told in the phrase "return to Koch" in a decade later. Kishimoto's crucial suggestion is that a therapist must try to be aware of the client's vivid expression throughout the process of the test. The drawing order of the Baum must be emphasized, and the therapist must understand the shape of the gestalt based on the "here and now" context of the Baum expression. The assessment aspect of the Baum test has been considered throughout the history of the test, but the therapeutic aspect was only considered recently. According to Kishimoto and other researchers, using the Baum test in clinical sessions enables the client's self-expression in a free and protected space, and often mediates the therapist-client dialog - which results in therapeutic progress.

2. Apical Termination

Among numerous perspectives and indices for understanding the Baum, *apical termination* by Huzioka and Yoshikawa (1971) is a breakthrough work of interest. They came up with this interpretative idea based on their cross-cultural fieldwork and research on child development. Apical termination has the advantage of holistically understanding the Baum by focusing on a key area in its figure, i.e., how to draw the top of the tree trunk. In other words, we can make sense of apical termination as *pars pro toto*. Today, many psychotherapists and scholars endorse the usefulness of this viewpoint. Sado and Suzuki (2014a, b) reviewed and summarized the characteristics of apical termination and related research trends.

Among the research on apical termination, Kishimoto (2002) and Okuda (2005) provided noteworthy ideas. Kishimoto (2002) focused on the boundary of apical termination with the help of Toshihiko Izutsu's ontology. Kishimoto's classification consists of the *open type* (subtypes: completely open type, closure insufficiency type, apical leak type, crown leak type), *closed type* (subtypes: crown type, radiation type,

pointed head type, other closure type), and *others*. The classification is based on the perspective of how to handle the inner space of a tree trunk as an actual task in drawing, and is neither too simple nor too complicated. It provides us with meaning as to the boundaries of a client's psyche. Meanwhile, Okuda (2005) suggested a viewpoint on apical termination aimed at understanding the Baum-drawing experience through *differentiation* (ramification to branches from the top of the trunk) and/or *covering* (wrapping the top of the trunk with the *tree-crown-outline*). Okuda did not establish this idea as indices for the form analysis, and positioned them as a critical point for the dynamic analysis.

The present research will be based on both Kishimoto's and Okuda's perspectives.

3. Freshness of Our Knowledge

Although there is a vast body of findings from existing research, the following issue remains: To what extent can old findings be used to understand current Baums, and how have Baums changed over the decades? Of course, representation within the Baum test and the interpretation of the test is one-time-only in nature, being based on an interaction between a client and his/her therapist. However, for practical use of the Baum test without awareness about 'what is a general representation in this context' are the same as a voyage without compass. Psychological support with no common sense or reference frames is not only one-sided, but also doubtful – similar to support that blindly believed some standards.

Researchers and practitioners should strive to keep our findings fresh. To the best of my knowledge, research on how the passage of time impacts the Baum has been done by Tsuda (1994), Ogawa (1995), Nagaya (1999), Yoda (2007), Kishimoto and Kishimoto (2012), and Sado et al. (2014). Although various discussions were made in these reports, they had certain limitations; they dealt with few data and did not successfully show the representation difference among various time periods.

In this study, I examine Baum test materials from Japanese university students in the 1970s, 1980s, and 2010s. These are sufficient data to find statistical differences among the drawings from each time period. I believe the present findings will contribute greatly to future research and practice.

4. Purpose

This study aimed to understand the impact of the passage of time (i.e., decades) on the Baum by comparing university students' drawings from the 1970s, 1980s, and 2010s from the perspective of apical termination.

II. Methods

1. Baums

The 1970s group: This group consisted of Baums from 1,025 university students (589 men and 436 women) in the Kansai and Kyushu regions of Japan. The Baums were collected by Yoshikawa's research group from 1971 to 1979, and all Baums were printed in their research articles (Nakao & Yoshikawa, 1974, 1975, 1980, 1981; Iwaki & Yoshikawa, 1978, 1980). The average age of the participants was 20.1 years ($SD = 1.35$). However, this value was calculated from the ages of only 486 participants (47.4% of the total), because the ages of the remaining 539 participants were unknown. Nonetheless, upon estimating based on the information provided in the research papers (the date of birth of the 539 participants and the period of each investigation), the average age of the total participants was not far off from 20.1 years. It should be noted that Yoshikawa's research group administered the Baum test several times to the same participants. In this study, only the participants' first Baum representation was included in the analysis.

The 1980s group: This group consisted of Baums from 916 university students (682 men and 234 women) in the Tōkai region of Japan. The Baums were collected by Hiroyuki Moritani from 1979 to 1989. I obtained the original drawings from Dr. Morioka and was allowed to use them secondarily in my research. The average age of this group's participants was 19.8 years ($SD = 2.55$). This value was calculated from the ages of only 754 participants (82.3% of the total), because the ages of the remaining 162 participants were unknown. Originally, Moritani investigated the effects of the fence technique (Nakai, 1974) in the Baum test representation, and some of these results have already been reported (Moritani, 1983; Moritani et al., 1984). In Moritani's work, the participants represented the Baum under three different conditions: i) using drawing paper with a typical frame line; ii) using drawing paper with a round-frame line; and iii) using drawing paper without a frame line. In this study, only the Baums which were drawn using paper without a frame line were included in the analysis.

The 2010s group: This group consisted of Baums from 1,059 university students (307 men and 752 women) in the Tōkai region of Japan. The Baums were collected by the author of the present study from 2010 to 2017. The average age was 19.5 years (SD = 1.25).

Among the three groups, there were some differences in the participants' attributes, including specialty and locality. However, these factors were not considered in this study. Further, I excluded drawings with two or more trees on one paper from the analysis.

2. Procedure

A B4 pencil and an A4-sized piece of white paper were used in the Baum test investigation. The 1980s group included some data using non-standard tools, but this factor was not considered in the present study. In all groups, the Baum test was administered to the participants in group or individual situations. Each researcher instructed the participants to “minonaru-ki wo ippon kaite-kudasai” (i.e., “draw a fruit tree”) in Japanese.

3. Classification of Apical Termination

This study follows the ideas of apical termination reported by Kishimoto and Okuda in 2002 and 2005, respectively (Table 1 and Figure 1).

The definitions of Kishimoto's classification are presented in Table 1. In accordance with Okuda's ideas, I created two indices, i.e., “differentiation” and “tree-crown-outline.” The term “covering” was revised to “tree-crown-outline” pursuant to the report by Yamanaka (2003). Additionally, in order to evaluate the Baums based on the relationship between Kishimoto's “crown type” and “radiation type” and Okuda's “differentiation” and “tree-crown-outline,” I created the “crown type with differentiation” and “radiation type with the tree-crown-outline” indices and defined them. Moreover, since Kishimoto's classification - which sheds perspective on how to handle the inner space of a tree trunk - is greatly influenced by the representation style of protruding from the drawing paper (Sado et al., 2014), I also adopted Koch's index of “protruding from the upper edge of paper” (Koch, 1957/2010, pp. 237-238), and set three sub-indices focusing on which part of the Baum protruded.

4. Rating and Analysis

Two certified clinical psychologists, including the

author, discussed and rated all Baums as to whether they matched the above types and indices.

The frequencies of appearance for the types and indices were compared among the three groups (1970s, 1980s, and 2010s) using the chi-squared test generally, and using Fisher's exact tests when the number of people in the cell was 5 or less. When significant differences were found, a residual analysis was conducted for all combinations between the two groups. In all analyses, differences were considered significant at $p < .05$.

III. Results

The results of the comparison among the three groups are shown in Table 2. The results showed that significant differences were found in many statistical tests. A summary of the resulting features can be expressed as follows: Compared to decades ago, the representations among current university students indicate that the apical leak type and pointed head type decreased; the open type, particularly the crown type, greatly increased; the protruding to the upper edge of the paper greatly decreased; the differentiation greatly decreased; and the tree-crown-outline greatly increased.

IV. Discussion

1. What Happened to Baums in the Last Few Decades

The above results suggest that there are major differences among the three groups. In other words, the Baum representations had changed over time. The results also indicate the same trends as those found in a study comparing the Baum test representations of Japanese junior high school students between the 1960s and the 2010s (Sado et al., 2014; Sado, 2016). Thus, the characteristics of the results above are not only observed in adolescence, but also in preadolescence. However, we must address certain issues within this study. Due to the large number of participants, it is possible that statistical analysis may have extracted small differences. Furthermore, due to the number of types and indices used, there is a possibility of statistical errors.

The “open type”, which often refers to the weakness of the psychological boundary, decreased in appearance frequency in modern-day representations compared to those in the past. However, this result should not be interpreted as an increase in pathological modern-day

Table 1. Classification and Indices of Apical Termination.2005).

<p>Open type: The Baums had no boundary between the inside of the trunk and the external world of the tree when traced upward from the inner space of the trunk to the tips of the branches. This type has four subtypes. A Baum which is classified as this type is always further classified as one of the following subtypes.</p> <hr/> <p>Completely open type: The Baums were abandoned completely boundary making at the top area of trunk in drawing task for apical termination, or that seems indifferent to this task totally.</p> <p>Closure insufficiency type: The Baums were drawn to close at the top of the trunk by any way other than the <i>completely open type</i> and the <i>apical leak type</i>, but had insufficient boundaries between the inside and outside of the trunk.</p> <p>Apical leak type: The Baums were handled with the task of apical termination using a tapering shape style, but were not completely closed. The inner space of the trunk was leaking at the top of the trunk or tip of the branch.</p> <p>Crown leak type: The Baums were drawn to cover the top of trunk or the tip of branch using the <i>tree-crown-outline</i> (see below), but the outline had two or more chasms (except for chasms between the trunk strokes and the outline stroke). As a result, the Baums had a leakage between the inside of the trunk and outside of the tree.</p> <hr/> <p>Closed type: The Baums had a boundary of some form between the inside of the trunk and the outside of the tree when traced upward from the inner space of the trunk to the tips of the branches. This type has four subtypes. A Baum which is classified as this type is always further classified as one of the following subtypes.</p> <hr/> <p>Crown type: The Baums were closed at the inner space of the tree whole using the <i>tree-crown-outline</i> with one chasm or less, except chasms between the trunk strokes and the outline stroke. The boundary at the top of the trunk was abandoned for branches.</p> <p>Radiation type: The Baums formed a boundary between the inside and the outside of the trunk by ramification from trunk to branches. All tips of the branches were closed.</p> <p>Pointed head type: In these Baums, the trunk was drawn to get thinner and it closed on top just as it was. The Baums often had several branches of a similar shape residing alternately at the sides of the trunk.</p> <p>Other closure type: The Baums formed a boundary between the inside and the outside of the trunk by any way other than the <i>crown type</i>, <i>radiation type</i>, and <i>pointed head type</i>. A representative example is the Baum with the <i>trunk top covered with the straight line</i> (Koch, 1957/2010, pp.190-194) or the Baums of tree species that live well in tropical areas, like palm, musa, and banana.</p> <hr/> <p>Others: The Baums were impossible to judge due to the open/closed nature of the inner space of the trunk. This included representations with the absence of the tree or those which had a <i>single stroke trunk</i> (Koch, 1957/2010, pp.73-74). This type included the reject and avoid of drawing tasks.</p> <hr/> <p>Differentiation: The Baums were drawn to deal with the energy by differentiation (branching) of some form at the top of the trunk (regardless of the form or degree), assuming that the energy would rise from the bottom of the trunk upwards.</p> <p>Tree-crown-outline: The Baums were drawn to deal with the energy using some kinds of tree-crown-outline (Yamanaka, 2003), assuming that the energy would rise from the bottom of the trunk upwards.</p> <hr/> <p>Crown type with the differentiation: The Baums were included in both the <i>crown type</i> and the <i>differentiation</i>. This was newly defined as a subtype of the <i>crown type</i>.</p> <p>Radiation type with the tree-crown-outline: The Baums were included in both the <i>radiation type</i> and the <i>tree-crown-outline</i>. This was newly defined as a subtype of the <i>radiation type</i>.</p> <hr/> <p>Protruding from the upper edge of paper: The Baums were drawn in such a style that part of the tree figure (except any additives) protruded from the top edge of the paper (Koch, 1957, pp.237-238). This index has three subindexes, all of which are enumerated below, that may overlap. Since the evaluation of the apical termination partly depends on the representation of the protrusion, it was added here.</p> <hr/> <p>Trunk protruding: The trunk protruded from the top edge of the paper.</p> <p>Branch protruding: The branch protruded from the top edge of the paper.</p> <p>Crown protruding: The crown area (including the tree-crown-outline and leaf) protruded from the top edge of the paper.</p>

* Revised from Kishimoto (2002) and Okuda (2005).

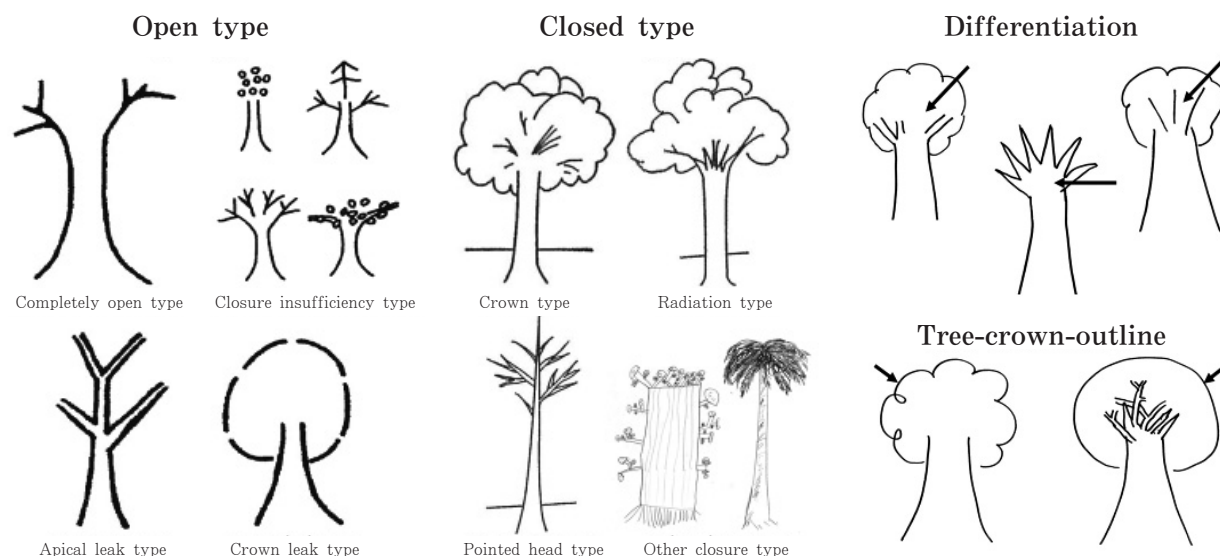


Figure 1. Examples of Apical Termination Types.

* Most figures were reprinted from Huzioka & Yoshikawa (1971) and Kishimoto (2002).

Table 2. Comparison Results of the Apical Termination Representations
among the 1970s, 1980s, and 2010s.

	1970s <i>n</i> = 1,025	1980s <i>n</i> = 916	2010s <i>n</i> = 1,059	χ^2	<i>p</i>	<i>p</i> (residual analysis)		
						1970s vs. 1980s	1970s vs. 2010s	1980s vs. 2010s
Open type	118 (18)	105 (11)	77 (7)	60.0	<.001	<.001	<.001	=.001
Completely open type	3 (0)	8 (1)	0 (0)	10.5	=.040	<i>n.s.</i>	<i>n.s.</i>	=.002
Closure insufficiency type	22 (2)	14 (2)	1 (0)	18.9	<.001	<i>n.s.</i>	<.001	<.001
Apical leak type	57 (6)	23 (3)	2 (0)	56.8	<.001	=.001	<.001	<.001
Crown leak type	106 (10)	60 (7)	74 (7)	11.7	=.003	=.003	=.006	<i>n.s.</i>
Closed type	697 (68)	679 (74)	898 (85)	82.1	<.001	=.003	<.001	<.001
Crown type	255 (25)	284 (31)	619 (58)	279.8	<.001	=.003	<.001	<.001
Radiation type	257 (25)	230 (25)	252 (24)	0.6	<i>n.s.</i>			
Pointed head type	156 (15)	69 (8)	21 (2)	122.0	<.001	<.001	<.001	<.001
Other closure type	29 (3)	96 (10)	6 (1)	124.4	<.001	<.001	<.001	<.001
Other	137 (13)	132 (14)	85 (8)	22.9	<.001	<i>n.s.</i>	<.001	<.001
Differentiation	860 (84)	591 (65)	449 (42)	387.2	<.001	<.001	<.001	<.001
Tree-crown-outline	527 (51)	492 (54)	1019 (96)	602.5	<.001	<i>n.s.</i>	<.001	<.001
Crown type with the differentiation	173 (17)	147 (16)	110 (10)	21.0	<.001	<i>n.s.</i>	<.001	<.001
Radiation type with the tree-crown-outline	104 (10)	83 (9)	239 (23)	94.6	<.001	<i>n.s.</i>	<.001	<.001
Protruding from the upper edge of paper	368 (36)	163 (18)	140 (14)	170.2	<.001	<.001	<.001	=.005
Trunk protruding	104 (10)	56 (6)	12 (1)	78.6	<.001	=.001	<.001	<.001
Branch protruding	163 (16)	60 (7)	14 (1)	155.5	<.001	<.001	<.001	<.001
Crown protruding	195 (19)	84 (9)	139 (13)	37.5	<.001	<.001	<.001	=.012

representations compared to the past ones, since the appearance frequencies of the four subtypes were approximate values among the three groups. Hence, the significant difference observed in the open type

may just be a result of the sum of accumulation of errors in subtypes; it would be wise to avoid overinterpreting this result. Moreover, the “others” (i.e., the representations that were unjudgeable on the

opening/closing of the inner space of the trunk) increased in appearance frequency in the present compared to that in the past. The reason for this increase may be the increase in the “protruding from the upper edge of the paper” appearance frequency. In particular, it is interesting to note that the protruding trunk and branch have become extremely rare representations in modern day. However, it is difficult to explore the meanings behind this trend because the protruding representation has not been fully discussed thus far.

The “closed type”, which often refers to the toughness of the psychological boundary, has increased in appearance frequency in modern-day representations compared to those of the past. Looking at the subtype results in modern day compared to those in the past, the crown type has become a major type; the pointed head type has become very rare; and the radiation type has remained unchanged. These are unique results of this study. It would be useful to focus on these closed type changes in order to address the following questions: “What is the essential difference in representations between the time periods?” “What happened to the Baum test representations after the passage of a few decades?”

The results of the analysis indicate that the “differentiation” and the “tree-crown-outline” showed egregious changes in appearance frequency at modern-day compared to the past. Specifically, the differentiation appearance frequency increased and the tree-crown-outline appearance frequency decreased. In the following discussion, I will focus on both indices as a drawing attitude on apical termination in order to understand the differences in Baum representations among the three groups. Both indices relate to the processing or effort to close the trunk’s inner space. Deepening the discussion on the differentiation and the tree-crown-outline indices would be a good starting point for examining the impact of the time period on the closed type.

2. Differentiation and the Tree-Crown-Outline

As explained in the definition of indices, the differentiation and tree-crown-outline are both ways of dealing with a drawing task as apical termination at the top of the trunk. However, there is a clear difference between the two. The drawing experience in differentiation is the orientation of internal energy, and the drawing experience in the tree-crown-outline is the struggle of boundary setting between the self

and the external world (Okuda, 2020). The result that modern-day university students fell under the tree-crown-outline index more than the differentiation index compared to 40 years ago can be interpreted as a change in the area of conflict generation. In other words, past students were more likely to have conflicts in the vicinity of the trunk, which is the physical sense of the self, while modern-day students are more likely to have conflicts in the vicinity of the external world, which can be called the social realm. Using this line of thinking, it can be recalled that in today’s clinical practice, I rarely encounter cases of classical neurosis. Classical neurosis theory may presuppose phenomena such as conflicts in the vicinity of the self as it relates to the differentiation representations of the Baum test. If the results of the Baum test are indicative of changes in the location of conflicts over time, then the disappearance of the neurosis disease entity in the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition* looks like an interesting historical event. In short, classical neurosis theory may have become less applicable in clinical practice since the 1980s.

In terms of the consumption of psychic energy in the act of drawing, differentiation is a style that puts more strain on the drawing subject than the tree-crown-outline. Imagine drawing the branches on trunk tops and completing the tree image that way, whereas the tree image is generally completed by simply covering the trunk with a tree-crown-outline at its top, after the trunk has been drawn. Therefore, the style of avoiding differentiation and breaking through the task of apical termination with a tree-crown-outline is often interpreted negatively as being conflict-averse, or the default mode of energy. However, it is also a rational style to use the tree-crown-outline to immediately form the general framework of the Baum image. Given that society today demands rationality and immediacy from individuals, we must also look at the positive aspects of the tree-crown-outline. Taking it a step further in the context of psychotherapy, the mind’s work in outline-dominant conflicts may be to acquire a new outline or to confront conflicts in a sense that is closer to the embodied self.

In any case, a transition in drawing emphasis from differentiation to tree-crown-outline was clearly observed from the 1970s to the present with respect to the apical termination of the Baum test. Since branch representations are essential for differentiation, the

hypothesis of branch interpretation based on the frequency of occurrence from existing research and the related hypothesis of interpretation of other representations should be reexamined and updated using fresh data.

3. Source of the Impact for the Last Few Decades

The differences in Baum representations between the 1970s, 1980s, and 2010s could be clarified by the examination in this paper. However, why and how did such differences arise? In the last 40 years, our biological characteristics have not changed at all; on the other hand, many other aspects of our lives, including environmental and psychological characteristics, have changed. What are the factors behind these results? Are education, nature, culture, environment, human relationships, communication tools, or other lifestyle influences responsible? Children living in the city may not climb and play in real trees as much as they used to, so they may not have internalized a realistic image of trees in their personal lives. In addition, since branches are rarely depicted in detail in anime and manga, children who are familiar with them may have learned a style of omitting branches in their representations of trees. It is not difficult to present such hypotheses. Changing time is not only a major factor of individual personalities, but also a screen for psychological projection. Therefore, we may be too arbitrary in our judgment of the role of changing times. In short, the flow of time can be interpreted in any way.

The scientific attitude here is to leave as unresolved the source of the impact for the last few decades. However, the findings of this study will be an important reference frame for therapists trying to understand their clients and their drawings. Moreover, the results teach us that researchers and clinicians are citizens living in the present, and they must be humble about the uncertainties of our minds and times (Maeda & Sado, 2019).

V. Conclusions

This study has elucidated some of the differences between university students' Baum test representations made in the 1970s, 1980s, and 2010s. These findings emphasize the need to reexamine the drawings' interpretation hypotheses and update them to fit modern drawing standards.

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I would like to express our deepest appreciation to Professor Hiroyuki Moritani for providing us with Baum test materials from the 1980s.

Note

1. For future cross-cultural studies, the characteristics of Japanese instruction in the Baum test should be explained. The word “naru” in Japanese instruction is unique. According to *Kojien* (Shinmura, 2009), the meaning of the “naru” item has 4 large descriptions and 19 detailed descriptions. It is often said that “naru” is a peculiar word in Japanese and cannot be completely translated into English (e.g., Ikegami, 1981). Japanese philosopher Maruyama (1998 [1972]) and Japanese psychotherapist Yama (2013) considered the meaning of “naru” while paying attention to Japanese creation myths, and both argued that the signification of the word “naru” is associated with the fundamentals of the Japanese psyche. In Japan, the instruction of the Baum test has not been unified, but the instruction “実のなる木を一本描いてください (minonaru-ki wo ippon kaite kudasai)” is the most standard (Nakajima, 2002). This sentence has the word “naru” as “minonaru-ki.” It can be understood that the word “minonaru-ki” includes all meanings of the past, present, and future concerning the event of “bearing fruits” at the same time. The participant is given no restrictions as to the species of tree with this instruction, unlike the English instruction and original German instruction. The Japanese instruction is exquisite, and its flexibility may be the reason that this instruction is most used in research and practice in Japan. Moreover, when transmitting this instruction in practical situations, clients often repeat it “minonaru-ki...” Thus, it seems that the dynamic orientation of the client's mind is directed towards the inside of the client herself/himself. This is an interesting point in Japanese instruction. As mentioned above, the Baum test instruction in a given language is based on the world of that language. This is a point of caution in international studies.

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