The selection of a problem in psychological research is a complicated matter because of the absence of sophisticated theory. In the more mature natural sciences selection of a problem is often based on the need to resolve a theoretical controversy or the desire to exploit a new methodological discovery. Psychology, especially work in developmental psychology, has neither sophisticated theory nor strong methods. As a result many research efforts are determined by different factors.

One incentive comes from pragmatic concerns which are parochial to a particular society. In the United States at the present time there are many social problems which generate uncertainty in the society. These include high rates of school failure, drugs, alcoholism, and delinquency among adolescents, parental abuse of children, and the effect of day care on the growing child. Each of these problems attracts conscientious scholarship. Modern Japan seems to be fortunate for the frequency of these problems is a little less than it is in the United States. Therefore, these pragmatic issues do not seem to be major incentives for developmental research. But I predict things will change in the future and these problems will attract more attention from Japanese psychologists.

There are interesting phenomena in Japanese culture which I believe should be the basis for inquiry. These phenomena include the *tatemae-honne* distinction; the effect of close mother-child bonding on later development, and the effect of intense competition among youth for university entrance. Although these problems are being studied, perhaps they should be the topic of more intense investigation.

A second determinant for research is the tendency of all scientists to look to other groups for guidance. In the modern community of nations I think most would agree that psychology is strongest and most vital in the United States. That fact does not mean that American developmental psychology is necessarily exploring the best problems but it does mean that the empirical work of the American developmental psychologists tends to dominate the research of other nations. Hence psychologists in Japan, West Germany, and Scandinavia pick problems and methodologies that are currently popular in the United States.

But there may be a danger lurking in this practice, for many American psychologists pick empirical problems without consideration of their theoretical importance. Therefore,

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Editor's note: Dr. Jerome Kagan is Professor of Developmental Psychology in the Department of Psychology and Social Relations, Harvard University. During August and September, 1978, as a visiting professor of JSPS, Dr. Kagan visited the Center at Hokkaido University where he gave lectures and conducted seminars.
I urge Japanese psychologists to reflect longer before selecting an area of inquiry and not to automatically pick a problem that is popular in American journals. At the present time an important goal of developmental psychology is to chart the natural course of development for particular periods of growth, even though this class of research is not popular. Let me provide an example from some of our unpublished work.

We have studied two small longitudinal samples. One longitudinal sample of 14 younger children (7 boys and 7 girls) was observed monthly from 13 to 22 months. The sample of 16 older children (8 boys and 8 girls) was seen monthly from 20 to 26 months and 15 of these children were seen at 27, 28, 29, 30, 32, and 34 months.

We studied the growth of language, the ability to solve transpositional problems, symbolism in play, memory for locations, ability to copy a face, and play with a familiar child.

The results revealed that although there was an obvious improvement in performance with age on all of the cognitive procedures, the greatest gains occurred during the few months prior to the second birthday. Most children first became capable of copying a circle, solving a transposition problem, remembering the location of a prize that was hidden under one of eight different receptacles with a 10 second delay around the second birthday. Additionally, mean length of utterance approached 2.0 morphemes by two years of age.

Of great importance is the fact that anxiety after witnessing a familiar woman display some actions was most intense at 22 to 23 months. The child's distress was reflected by obvious fretting, crying, clinging to the mother, and refusal to play. This distress displayed an inverted U shaped function, peaking at about 22 to 23 months (when 56 percent of the older cohort showed some sign of distress). The distress was absent at 13 months as well as at the older ages of 27 to 29 months. We have verified in other experiments that this distress will also occur in the home and is not due simply to the fact that the child's play was interrupted by an adult. These data have also been verified in a cross sectional sample of children in the United States and on a sample of children living on isolated atolls in the Fiji chain.

We believe that distress shown at 22 to 23 months following the model's behavior provides a clue to an important maturation function. I believe the distress is due to the fact that the child now feels obligated to replicate the adult's behavior but recognizes that he or she cannot meet that standard. As a result the child becomes uncertain and inhibited. Assuming this suggestion to be valid it implies that the first emergence of standards of competence appear at this time. As a consequence the child will now be more highly motivated to display extremely competent performance on a variety of problem tasks. We believe this is the time when the child first becomes aware of his sense of agency—translate "self" if you wish.

The data also point to the role of temperament as well as rate of maturation. We found that temperamentally inhibited children showed less symbolic play and less interaction with a peer than temperamentally less inhibited children.

The reader will note that the strategy in this work is to gather careful observations on a group of children during an important phase of growth and to be receptive to generating some abstract principles that might govern the lawful data. The Japanese researchers I met show great technical competence. They have excellent experimental
skills and implement sophisticated analyses of their data. But I noted a reluctance to theorize, a resistance to speculate or to inquire into the presuppositions of their work. I regard this as a potentially serious problem. I suspect that the traditional desire to avoid criticism from colleagues is one reason for this theoretically conservative attitude. But I would remind my Japanese readers that scientific progress is measured by the invention of powerful and synthetic ideas. Data are necessary to keep theorists honest and to refute invalid suggestions. But theory supplies the essential guidance for research. Therefore, my main suggestion to Japanese developmental psychologists is to become a little more concerned with theory and to be prepared at all times to hypothesize principles that unite one's observations.