

Web-Based Radio Show


The Mind and the Brain Part III

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When we look at the next stages, two-way communication from 4 to about 12 months and then shared social problem solving from about 9-10 months up to about 18 months, what becomes important here is to provide experiences that read the baby's gestures and emotional signals and facial expressions, and respond back. It helps the baby get so much practice at back-and-forth interaction with gestures and facial expressions fueled by the baby's emotions. The gesture to reach for a rattle is there because of a desire for pleasure in that rattle. It is the beginning of, as I mentioned last time, will and purpose and intent. As the baby takes, at 16 months, mommy by the hand to walk with her to point to the toy they want, you get many back-and-forth interactions, all fueled by the desire for that toy. Or as baby is flirting with daddy to get picked up to get a hug, you are getting many interactions fueled by the desire for that joyful hug. So we are getting many different emotions. You may get mischievous, curious, assertive, angry, or even sad interaction patterns where the baby's emotions of the moment fuel very complex back-and-forth emotional signaling and interactions. We talked about how important this emotional signaling was for the development of the mind; for the development of later symbolic thinking as well as for regulating aggression as well as regulating for other emotions because the signaling provides a language for preverbal communication system that we all use for interaction. It helps us read and respond to others. It helps us get over the catastrophic, all-or-nothing emotions of fight-or-flight or shut-down and move into patterns of social communication – negotiation.

What kind of caregiving is necessary for this? Here we need caregivers who, as before, treat the baby with intimacy and a sense of basic security and self regulation who know that baby and toddler very, very well who can read the baby's signals. We need caregivers who have the time to do that and do it lots, hours a day, with calm and regulated patterns. The angry toddler needs a lot of patience and soothing and we have to do something called "counter-balancing." The more anxious, the more angry, and the more soothing we become as a caregiver with our voice and our counter gestures to help the 16 month old who is ready to bite or pinch, we show them we read their desire to be picked up or to have that toy and we move it a little closer to them and we smile and we point to it and nod, "Is that what you want?" The child now nods even angrily with a grumpy "RRRRRRRR!" but doesn't bite or pinch or pull because they see we have




understood what their intent is and they are not being ignored. Then we might negotiate who is going to reach that next step for that toy to help them become assertive. As the baby or toddler takes more initiative in this two-way communication, we see the brain growing with circuits that support this, usually between the emotional centers and the frontal lobes, particularly the prefrontal cortex but also the cerebellum is involved as well as other areas of the brain. As the baby uses a word or two we are beginning to get some linkages to certain cortical areas as well.

But in terms of experiences, this requires, again, caregivers who know that baby and know that toddler very, very well, who have the time and the patience with these long sequences of interaction where there are special needs conditions, we require hours and hours a day of this kind of effort to build this capacity because this is pivotal in helping a child with special needs overcome some of their challenges, as we have shown elsewhere in our books, *Engaging Autism* and *The Child with Special Needs*. In daycare settings, for now there might be six toddlers per caregiver or a continuation of four, it is going to be hard for caregivers to take the patience and the time for each of their active toddlers to have these long chains of interaction, if not impossible.

The toddlers are often only having each other to interact with and they are all just learning this system. They need to interact with each other, but more importantly they need to be interacting with their caregivers. Studies, as I mentioned before, of stress among children, stress hormones go up among those in group care settings whereas it stays at normal levels in home reared home settings – even less than ideal home settings.

So we need, again, caregivers who are there for the children, who know the children, who know the toddlers, where there is only one or two toddlers to take care of at a time. We need families that can support this. This requires stable families with adequate medical, nutritional, and other supports, adequate levels of income, communities that are safe and secure, and cohesive and supportive and national and international government institutions that can support these systems of care. Our report called “Around the World” asks how well we are doing. Well, we have a very high percentage of children in daycare settings that are less than optimal and don’t have ratios of one caregiver per two children. Maybe that is impossible financially. We have many, many communities that are unstable due to war and famine. Loads of families are without proper medical care. There are high degrees of families in distress because of marital conflicts or divorce – unstable family situations. All in all, our report got us a mixed bag with some families and caregivers doing very well and others not having the support or security to provide these experiences. So we, again, have to assess what we want for the future at all levels. Next we will talk about the higher levels when ideas start coming in.


Once a baby or toddler can do complex emotional signaling, as we have talked before, they can overcome these catastrophic emotions of fear and fight-or-flight and shut-down and enter into back-and-forth interactions around a range of feelings –



intimacy, warmth, anger, assertiveness, curiosity, beginning creativity – and there are all kinds of subtle variation in each of these feelings. We even begin seeing the beginning hints of empathy for caring for someone else. As they are doing this emotional signaling back-and-forth, they are beginning to separate perception from action. It is no longer ‘see mother and grab her’ or ‘see daddy and pinch him.’ It is now, ‘mad at daddy, see daddy, and negotiate.’ Or, ‘see mom and become flirtatious to get picked up.’ So it is no longer fixed perceptual motor patterns or fixed actions. Now there is a desire, emotional signaling, and then some kind of action. That desire starts with a perception – seeing mom, seeing dad, seeing an apple, or seeing a toy. So now there are free-standing perceptions that are no longer tied to fixed actions. These free-standing perceptions are images of the basis for ideas. Mother now has a free-standing image; a picture of mom can be invested with all kinds of feelings and a history of interactions from intimacy to limit setting to different kinds of fun and joy as well as annoyance, etc. So we get the beginning of ideas, and we see this come out in the toddlers’ or the preschoolers’ interest in pretending and in using words meaningfully, not just scripting words or repeating words or repeating things from a book or labeling “chair” and “table” but more like “I want juice” or “I want a hug” or “Mommy, lovey, lovey.” And also pretending – feeling the dollies and putting them to sleep, going into joint pretending with mommy or daddy or some other caregiver.

Now to do this, again, requires caregivers who know their infants and young children, who are those who have been involved in emotional signaling with them who can now move to the next level of getting down onto the floor and entering into shared pretending and have long conversations about a flower or about a food or about a toy or about a feeling. For many caregivers, this comes naturally, but they have to be there. Again, can a busy caregiver with six preschoolers do this with each of them many times a day? Toddlers and preschoolers can now do this with one another, but they also need caregivers leading them in the beginning until they become really good at it. Initially, too many preschoolers in a group will just go into their own worlds and do parallel play. They won’t really be interacting or do shared pretending – not until they get to the ages of 3 or 4. So we need that caregiver mediation, and initially some one-on-one caregiver interaction is essential with the preschooler.


With the child with special needs, it requires even more practice to get to this level and more effort, but they can do it too, as we have shown elsewhere in *The Child with Special Needs* and *Engaging Autism* and other publications. Here too, we need stable caregivers who are there for the long haul. With two-parent working families, we need the 4/3 solution. Daycare centers are hard places for this to occur because of the overwhelming number of children per caregiver and the ratios. We shouldn’t expect this to occur even as the child gets a little older in the preschools to any great degree because of the group setting, which can be fine for a few hours a day, but it is not going to be the pure ‘mother’s milk’ that the baby needs.



What kinds of families can provide this? Will they have time for shared pretend play to get that imagination and curiosity cooking and get ideas cooking? We are going to need caregivers who feel supported by the families and we are going to need stable families. It goes without saying – medical, nutritional, safety, security, communities that can support this, national infrastructures supported by political systems that make sure that poverty, natural disaster, and lack of medical care is a thing of history and not a chronic pattern of the future; and, international communities that support one another where famine, war, and genocide is a matter of history and not the future. So if we want creative minds and brains, we are going to need experiences that support this because now if we look at the mind, the child is learning to be a thinker and a creative thinker – come up with new solutions, initially through pretending and using language meaningfully. That is building brain circuits where the emotional centers of the brain are connected to the frontal lobes, the prefrontal cortex and the other parts of the frontal lobes, but now we are bringing in more of the cortical centers that have to do with language and more complex visual spatial relationships where it is not only verbal but nonverbal thinking that is being mobilized.

The cerebellum is being pulled in too, to help orchestrate and coordinate all of these. All of this is occurring through these natural, mind-building experiences, which in turn builds the brain circuits. So we are talking about the brains and minds of the future generations that will govern the world. We can't be cavalier about this and this requires, just like we are concerned about global warming and other natural events now way before it is overwhelming, we have to be concerned with the young minds and young brains now before we have generations of minds and brains that can't cope; that can't nurture future generations. So this is a very important issue for us to begin addressing. As we look at technology and the amount of screen time that children are indulged in – watching TV, watching videotapes, doing computers, doing just pure memory-based work with flashcards because they are being told by parents that this will prepare the kids for school, we see how easy it is to sabotage this capacity for creative thinking and the forerunner of logical thinking and being reality based.

Creative thinking, like the capacities that build healthy minds and healthy brains that we discussed earlier, require stable, well-supported healthy caregivers and families and communities and national and international political systems that can be mutually supportive; that can support the development of healthy minds and healthy brains. If a child learns how to be a creative thinker; can master this capacity, then the stage is set for the child to learn to connect ideas together, as we have discussed elsewhere between ages 2 ½ to 3 and 5. The child is learning now to answer “Why do you want to go outside?” “Because I want to play and it will make me happy.” The child, by connecting his ideas to your ideas, is developing a sense of logic and a sense of causality. That is the foundation for appreciating reality; for appreciating there is a life outside me. There is a mind separate from my mind and that represents an outer reality. Over time and a number of years, this sense of reality beginning with the ability to connect ideas together




increases. But this won't happen unless there are caregivers and educators now because the child is probably in a preschool program, or will certainly be interacting with others in different cultures, where there are other minds that are talking back to the child, that are reasoning with the child. If the child says, "I want to go outside" they aren't just saying yes or no, but saying, "Why?" and inquiring how the child will feel if they can go out now versus later. They want to know why the child is happy or sad.

All of this encourages the ability to connect ones own ideas, in this case the child's ideas, to the ideas of the adult which represents the outer reality. Without that, the child lives in their own world and gets lost in fantasy. Children who play alone a lot or who just watch videotapes and have too much screen time, they tend to get lost in their own world more; don't appreciate the outer reality quite as much because there isn't this two-way communication as we began talking about with creative thinking. The dependency on screen time – computers, TV, videotapes, or games that are so electronically complicated that they have a life of their own and don't require a human-to-child interaction, for example robots that are humanoid-like that are the wave of the future – they are very dangerous for the development of healthy minds and then healthy brains.

Healthy minds and healthy brains require, first of all, emotions and desire. The child desires something like going outside and then communicates that to a caregiver who then asks, "Why?" and the answer to that then helps the child develop logical, purposeful, causal thinking, which is the foundation for a sense of reality and reality testing. Without that, we have children living in fantasy. So too much dependency on screen time, and I would say for a toddler and a preschooler, anything more than ½ hour to 45 minutes a day of screen time is too much, and there are many, many children who are having hours and hours a day of screen time and then we are surprised when they escape into fantasy or they appear self-centered or they don't appreciate reality or they aren't as logical, purposeful, or causal as we want them to be. It is not simply whether one is self-centered or one retreats into their own world a little bit. It is that lack of appreciation of reality. Can we afford to have individuals in the future prone to living in make-believe worlds who will have the ability, technologically, because this won't affect one's ability to learn math or physics, for example, to have the access to nuclear weapons or biological systems or who we are dependent on for complex judgments about protecting the climate of the world? These are very, very important considerations to get out right now.


So here we need experiences that provide the child with the opportunity for long discussions that are logical and reality-based. About half the time a preschooler at this age, between 3 and 5 should be spending in pretend play and half the time in talking about friends and school and reasons for things. It should be looking for the child to explain their reasons for how they feel, why they want to do something, what it is they want to do, and then participating in appropriate activities with them, explaining why certain limits are necessary as you reinforce those limits or as you are firm in those limits.



So talking to a child doesn't mean giving in to a child. It means helping the child learn to be a person who can reason. This leads to higher levels of thinking which we will talk about in just a moment, but before we come to the higher levels of reasoning and thinking, it is very important to establish how critical this capacity is for the mind and the brain. Now the mind is not only developing a sense of reality so it doesn't escape into fantasy; it doesn't move ahead into the school years and teen years and adult years where fantasy and reality are confused or where it is easy to use escape into fantasy as a coping strategy when there is a stressful experience or conflict or something is hard or difficult. The more stable this becomes because of these types of interactions that we are discussing, the more the individual stays grounded in reality. These capacities rely and build on one another so the basic security, engagement, and emotional signaling and creative thinking that we talked about before, all lead up to and reinforce and support the ability for this sense of reality and logical thinking. For example, even as the baby forms patterns of engagement with their primary caregiver, they are appreciating a person outside themselves. So sequentially, all of these experiences are necessary for that sense of reality.

What happens to the brain? Well, those cortical centers that have to do with language and have to do with nonverbal reasoning are working more and more together and are there forming circuits that support not only the smooth working relationship between the emotions and the thinking capacities, but where the sense of who I am as a person is being formed and who other people are as persons are being formed. They are being formed first at the level of the mind, but then the circuits in the brain that organize the perceptions of oneself and others are being connected up together. These have to do with various cortical systems beginning to work in more orchestrated patterns.

So here too, to secure solid sense of reality and logic and purposeful thinking, we need caregivers who are curious, who have the time and energy and who are not overstressed, are part of stable families therefore, and who are part of stable communities. That means medical, nutritional, safety, security, and national systems and international systems and global systems that can support this around the globe and around the world. When we look at our report card on how we are doing here, we see that too many children are being compromised in their sense of reality by being left to screen time and electronic devices rather than human interaction, which is the key. As we have explained elsewhere, it is the emotional interactions with others that fuels the sense of reality; that sense of self; that sense of another person as a separate, other being, and the concerns for that other person, things like empathy, caring, and warmth are all fueled by the emotional interactions we have with others. We don't form a sense of our self other than through our emotional investment in interactive relationships with others. That is where we get a sense of ourselves – through that kind of feedback. Are we a good person or a bad person or a loved person or a cared for person or a curious person? Our sense of empathy comes from being able to feel ourselves as a defined human being at this point as we are forming that sense of reality; that sense of who we are as part of our causal thinking and




as we form the sense of others. Now we can have empathy beginning in the way we ordinarily think about empathy – caring for another person. But it has to be fueled by the early nurturance of the four month and six month old and eight month old stages where we invest in others because they invested in us with warmth and intimacy. So there are no shortcuts here; there are no short roads to roam. The road to roam is a long and complex one. There are no easy answers.

In our next show we will talk about the higher levels of thinking. We will talk about multi-causal thinking, gray area and comparative thinking, and reflective thinking. You have to have reflective adults who really understand themselves and others and can take over the stewardship of the world.

Now as I have been talking about this, some of you may be saying that it is Shangri-La. What family is without stress? What family is without marital discord of some kind? How are we going to take care of global poverty and global poor nutrition and lack of medical care for so many? But this is where the political will has to prioritize and think about future generations. It is never going to be perfect. What are we going to do about daycare and two-parent working families? Can we make daycare work or do we have to go to my solution – the 4/3 solution where each parent works 2/3 time. Well, I think we are going to have to go to my solution – the 2/3 solution where each parent works 2/3 time. But that remains to be seen. But in the meantime, we have to think about the experiences we want to build healthy minds that will, in turn, build healthy brains and that these healthy minds and healthy brains can reach a point where there is a stable sense of reality; where there is a sense of who I am as a person, who other people are as people; where there is a sense of the outer reality. But the cortical circuits that will support this are orchestrated by a mind that is created by these healthy experiences that we are discussing.


So nothing comes without a reason. You don't get what you want without traveling the road or pathway there. In prior discussions, we have talked about how this sequence of experiences that build healthy minds and healthy brains, we have shown you how they can produce the qualities of empathy and curiosity and caring and logical thinking and sense of morality, or, alternatively, how they can also produce anxiety, depression, distress, and other mental illnesses. So through this way of understanding how experience builds healthy minds and, in turn, healthy brains, we understand the pathways to both mental health and mental illness. We have discussed this in the past and I won't review that here at this moment, now. But this is a discussion that is important in terms of providing the protection for the future mind and brain of the world. We got all the way up to causal and logical thinking and establishing a sense of reality. And, just to add a few comments, a sense of reality comes from connecting one's own ideas to the ideas of somebody else, but particularly ideas that have strong emotions behind them and having strong feelings towards the people you are using your ideas with. That helps you define who you are, for example, when you are excited and feeling



enthusiastic and loving if you have a loving mother or father who is there for you and who is spending a lot of time with you and you express that love with a word or just a look or just a gesture and you get something back in return – a word, a look, or a gesture – or all three. Hopefully it is all three. Or a facial expression or words – “I love you mommy” and mommy says, “Oh, sweetheart, I love you so much.” That defines you as a lovable person. It defines that boundary.

But similarly, when you are curious or when you are being assertive – you are getting a person who says, “Well, what are you going to do, Johnnie? What should we build today?” if daddy is taking you out for some fun. When you are angry and furious and you have a parent who you love enough that it can balance the anger so you are not feeling like, “Gee I wish I didn’t ever have to see this person again.” You are furious but that person helps you contain yourself with limits, and soothes you and talks you through your anger and helps you calm down. If you overstep the bounds and hit or kick or bite, they enforce whatever the sanctions may be. It may be a time out or it may be another sanction or a loss of a privilege, and hangs in there and hangs tough with you as you suffer through the sanction. Well, that defines another boundary in your sense of self; the sense of self that has to respect the needs of others and they can’t do just what they want to do. Through this you build your sense of personal self leading to an identity but you build your sense of others as well. This establishes reality where you have a clear boundary between you and others. If you don’t have this clear boundary between you and others, your sense of reality may be blurred. Your wish becomes your reality; wishful thinking. It is not buttressed with an external reality.

This comes, again, not just from intellectual discussions or school discussions, it comes from strong feelings becoming expressed through ideas that are connecting through ideas from others who are giving you responses back – helping you elaborate, for curiosity, but also helping contain you and also setting limits when needed. All of the human emotions – love, curiosity, caring, different levels of intimacy – are all part of the equation here; to establish this sense of reality and this personal identity. Well this requires caregivers who are dear to you. It could be a grandparent as well as a parent, it could even be a nanny who lives with you for many years. But you don’t have strong feelings towards people who are transient in your life – nannies who keep changing or parents who are working so hard because they haven’t figured out how to balance work and family, or because it is a single parent or a situation where in order to put food on the table they have to work so hard. They are not there enough, in which case this sense of personal identity or self and the boundary and the sense of reality that comes from connecting ideas together may not be there. If you are spending all of your time with electronic toys or with computer time or with TV time, it is not going to be there. You need to be doing this with peer relationships through lots of play dates or neighborhood friendships or school friendships. If you are on your own on your computer, spending a lot of alone time, it is not going to be there either.




So we have to ask the question, “Where is modern society heading?” Are we moving in the right direction? Are we establishing the foundations for a healthy sense of self; a healthy sense of reality that is tied in with our ability for causal and logical thinking; to be logical people as opposed to people who are caught up in their own fantasies or magical thinking? So this is essential. It is equally as essential for the higher levels of thinking.

So instead of screen time we need friend time. Instead of alone time we need parent and caregiver time with intimately caring caregivers. We need parents who have enough time to be home in the hours with the kids – somebody home after school and someone home in the evening. In our book about what was essential for kids, Barry Brazelton and I outlined the essential experiences. The book was called, *The Irreducible Needs of Children: What Every Child Must Have to Grow, Learn, and Flourish*. We talked about the importance of families being there if we are going to have the kind of future generations that we want to have.

Now when we get to higher level thinking, we get to what we call multi-causal thinking where the child can give you many reasons for something. This is a further elaboration on reality. They appreciate the more aspects of reality: “I want to go outside and play because it is going to make me happy, it will make me healthy, and I won’t be a nuisance to you and a pain in the neck” etc. It shows that the emotions of the child can be expressed logically and causally in a more complex way. Then we get to a very important area of thinking called gray area thinking. We see this at the same time we see comparative thinking where the child says, “I like Johnny better than Suzie because Johnnie is nicer to me at school and Suzie can be meaner than Johnnie so therefore Johnnie is a better friend than Suzie.” When making this comparison, there are degrees of subtlety. The child can tell you how angry: I’m very angry, I’m furious, I’m fit to be tied, or I’m just a little mad, I’m very happy, or I’m more excited than ever.

Now as the child moves into this gray area thinking, they move away from what we call polarized thinking – all-or-nothing thinking or “my way or the highway” kind of thinking. We see the all-or-nothing thinking with the child who comes home from school and says, “Everyone hates me!” because one child was a little bit mean. They don’t say, “Gee, Suzie was a little mean to me today but maybe she’ll be nicer tomorrow, and Dolores, Harry, Jane, and Tom were nice.” The whole world collapses because one person is mean. Or, “I’m angry and I’m furious” and it’s not degrees of anger. “I never want to go back to school again” or “I’m going to do something really mean to that principal,” etc.


The polarized thinking we see in many of adults who go from all-or-nothing extremes we all have around some emotions. But again, the degree to which a caregiver can be patient with a child and calm the child down when they are angry, the child experiences that soothing experience and experiences it all throughout these early years of life and reasons out with the child why they are angry; letting the child do the talking



and talking the child through it. Then they can appreciate the degree through which they are always angry in this situation, whether this is the angriest they have ever been, whether this is just a little squeaky wheel in an otherwise happy camper's life. This is how a child goes from all-or-nothing thinking to "gray area" thinking.

The child who is expressing a preference to play with one child and not another child, you can ask, "Well, gee, why do you like Susie better than Johnnie?" "Well, I like Susie because she is good and fun." "Well, gee, what makes her more fun than Johnnie?" Then you can help the child reason it out. They may list a few things like, "She does this and that and that makes her more fun." Now they are learning gray area thinking as opposed to all-or-nothing thinking. This takes a calm caregiver. This can occur in school with a teacher who is there for the child. This takes a very calm caregiver who is soothing, gentle, and again counterbalances the child's strong emotions of the moment – polarized thinking leads to strong emotions and fuels the more the kind of catastrophic emotions that we talked about in the first years of life before a child learns emotional signaling. In fact, the better the child is at emotional signaling, the better the child is going to be later on at gray area thinking. So reading facial expression and understanding the subtlety of other people's feelings helps the child become a good gray area thinker. When we talk about understanding the feelings of others and being able to empathize, we are talking about appreciating the subtlety of everyone's thoughts. Again, this requires patient caregivers, teachers, parents, others in the child's life, lots of friends and access to friends, and schools that take on the social responsibilities as well as teaching the ABC's. It takes stable communities, stable families, and mature caregivers. Overworked or overstressed caregivers who are not there – electronic toys and computers can't teach you this because this comes through interaction, through reasoning, through human-to-human emotional contact, not even a great computer program that taught you all the gray area thinking intellectually would be able to do the trick in terms of what we are talking about.

Once we have mastered gray area thinking which usually occurs with children around ages 6-8 or so, but I should add that this builds on the earlier levels we have talked about and then continues and gets refined throughout one's life, we begin getting ready for reflective thinking which will come in more around ages 10 through the teen years and then get stronger and stronger throughout life. Now reflective thinking means that you have a stable sense of who you are; stable sense of self; one that has as its foundation gray area thinking and a subtle appreciation of yourself and others, and solid boundaries in terms of your sense of reality and your logical thinking and also that you are connected and engaged and can read and respond and appreciate emotional signals and use ideas creatively as well, and also that you can regulate yourself and feel secure. So it builds on all of these foundations we talked about before. It comes from nurturing caregivers and stable families and safe communities that provide adequate housing, food, medical care – not through give-aways but through providing opportunities; economic ones and supports for those who need them.




This then leads to the opportunity to master reflective thinking. A reflective thinker can evaluate themselves and say, “Gee, I’m angrier today than I usually am in this situation” or “Gee, my essay wasn’t up to my normal standards. I wonder why I didn’t do it as well as I wanted to. Maybe it was because I was worried about my friend Johnnie who has been mad at me recently or maybe it was because I haven’t been working as hard as usual because I am more interested in my soccer or something.”

To reflect on oneself and to evaluate one’s own ideas, means that you have a sense of self that is stable, and then you can take a step away from that and compare a new experience against that sense of self. It is what enables a youngster to say, “Gee, no I’m not going to experiment with that alcohol or that drug even though my friends are and there is a lot of pressure; that is not the kind of person I am and I am not going to take that kind of a risk.” So you can make a good judgment call about tough decisions that are going to come up during the adolescent years.

It allows you, as you get to be older, to prepare for a career choice and say, “What fits in with my personality and my talents and my strengths and my weaknesses?” It helps you separate from home and go off to college or go off to a job in another city. It then helps you have children of your own. It helps you share an intimate relationship in a marriage. Each time you make this leap, you are increasing your reflective range to new experiences; new emotions; new challenges. But it all starts off with a clear and stable sense of who you are. Plus, caregivers who helped you reason about who you are and what new experiences mean to you. So a caregiver who says to a young 11 or 12 year old, “Gee, how would you compare how you are feeling today with how you usually feel?” is helping foster reflective thinking. “How does this essay compare to the ones you have done before?” or “What is your sense of what makes this hard or easy – math easy and writing hard?” A parent who asks those questions about feelings; about schoolwork; about friends – “What makes you like this friend and not that one” or “Why are you hanging out with a more risk-taking group all of a sudden? What is going on?” So a parent who is tuned in to their youngster; who is available; teachers who are available; mentors who are available foster this capacity for reflective thinking.

This is not solely an intellectual capacity and almost all human beings are capable of it. It doesn’t require being an A student, in fact you can be an A student and not a reflective thinker if you have a good memory. It does require a very, very strong capacity to self evaluate. This is really also the best asset you have for higher level academic abilities; when you are analyzing why you like Mark Twain better than Tolstoy. This ability for self evaluation is important – “Well, Mark Twain’s background is similar to mine and Tolstoy’s wasn’t similar to mine and here are the similarities and here are the differences.” So it is very, very important to develop this capacity that all people are capable of, but requires these nurturing relationships again – not computer time or electronic time. It requires friendships; it requires new experiences with the guidance of your caregivers or your mentors where you are practicing reflecting as you are expanding




your horizons. It requires teachers who care about you and you care about them in schools where you get to know one another. It requires lots of friendships so you can expand your range of experience. It requires moving ahead throughout the new challenges of life – changing friendship patterns in the teen years, more intimate relationship patterns being explored, job experiences being explored, getting ready for moving on to careers through college or new jobs, marriage, children of your own, and so forth and so on. But again, it all starts with those nurturing relationships. What we have to do is examine where we are now as a society. Are we becoming a more impersonal society that is going to compromise all of these wonderful abilities that we need for building healthy minds, and in turn healthy brains?

In just a moment, what we will do is review some of the elements and current trends that we are experiencing that we have to really look at closely to answer that question: Where is current modern society moving in the United States and elsewhere?

So reflective thinking like our sense of reality requires a strong sense of who you are as a person. Again, that comes from caregivers who are involved with you with all your deepest and most intense feelings from anger to love to intimacy to curiosity to assertiveness to power struggles to cooperation to collaboration. All of these different dimensions of the human drama need to be experienced in relationship to deeply felt, stable relationships with key caregivers – hopefully also mentors or educators or coaches and others in your community; with peers. As we do this, our sense of self expands into a sense of personal identity which enables us to then to reflect off of that and compare new experiences to who we are as an evolving person. Then we can assess whether we want to take the risk of experimenting with alcohol or drugs or this friendship or that friendship pattern. What is going to be safe? What is going to be dangerous for us? What do we want to do in the future? It creates the foundation for then expanding sense of identity as we move into late adolescent and adult years and all of the new opportunities and experiences and challenges.

So what does it come down to? Where are we headed as a society? I have emphasized throughout this, the importance of ongoing, nurturing relationships. So if we are moving in the direction of more and more two-parent working families where work comes ahead of family – not because we aren't working for our families but because we don't have the time – that endangers a healthy mind and favors the brain losing its mind. So we have to ask what we are doing in terms of our values. There has been a role change, but does that mean that children get lost? Or do we go to something like the 4/3 solution where in a two-parent working family each parent works 2/3 of the time leaving 2/3 still for the care of the kids.

Where are we going in terms of TV and computers and other electronic communication devices? Are we headed towards more impersonal forms of communication and more communicating with others, perhaps, but not in as intimate and



feeling of a way through electronic means. Are we headed to be an electronic society; an impersonal and electronic one?


Are we headed more towards group care for too many infants and young children where stress hormones go up by the end of the day rather than down as they should and where the opportunity for the intimacy of the one-on-one relationship or one-on-two relationship is not possible where caregivers are changing and where babies and toddlers are being socialized by the group rather than the nurturing, caring adult who is going to be a constant in their life. Are we headed in that direction?

In education, are we headed towards fact-based and memory-based rather than thinking-based education where children learn to reason and think out solutions to problems, where they learn to be both creative and logical but in a way that helps them figure things out that leads from creative and logical thinking to comparative and gray area thinking and eventually reflective thinking. Or, are we fostering a pathway of memory and repetition and more polarized thinkers?

Are we fostering, through the lack of nurturing relationships, more self-involved individuals? Sometimes we use the term “narcissism” because narcissism is a way we have of protecting ourselves from being hurt and being disappointed. So instead of seeking love from others, we invest ourselves with self-love, in essence caring only about ourselves and not taking the risk of really investing in others. What does that do to empathy? What does that do to the caring about others?

As we look around the United States and elsewhere, what percentage are too poor to put food, housing, clothing, and adequate medical care together so that the basic security and fabric and the first foundation for all of the above is not in place. As we look around the world, how many children are exposed to famine, danger through wars and other experiences that disrupt families and communities where we will have generations of youngsters who are vulnerable to unrealistic thinking; who are vulnerable to unrealistic thinking; who are vulnerable to impulsive and polarized patterns rather than reflective and caring patterns. If we want to protect the world for the future, we have to think about these questions and we have to think about the degree to which we can put as the uppermost value nurturing, caring caregivers who are there and are available, security in terms of food, housing, medical care, and safe communities that are stable and stable families, and educational systems that foster thinking and reflection as opposed to memory, and then economic opportunities and higher education opportunities.

Now this sounds like a tall order, particularly for developing countries and developing societies, but it is a tall order even in parts of well-to-do nations. Yet this is what it takes to produce healthy minds and healthy brains. If we can't produce this, if we don't have this, we are going to move more and more in the direction of the brain losing its mind, and if it does, it is losing that which helps it form healthy patterns. Then we get into hot water.



Now as I mentioned, we have already talked about, and we will be talking more about in the future, how specific capacities such as empathy, curiosity, logical thinking, and morality get established; how these broad experiences that I have been talking about are part of all of these characteristics we want for our children and we want for adults for future generations. We will also be talking about the pathway to mental health problems – anxiety, depression, impulsivity, attentional problems – and how when we don't have these healthy mind-building and brain-building experiences, we expose ourselves to the other side of the coin. It is not a question of genes versus experience, it is a question of the more genetic vulnerability we may have, the more these types of experiences are important. As we have shown in our book on individuals prone to mood swings, they need even more stable, soothing, nurturing caregivers who can counterbalance the infant or toddler's mood swings with calm, soothing counter reactions. They need even better reflective capacities and creative thinking capacities to express their different moods.

So it is not a question of things being set in stone or everything being accounted for by experience alone, but experience is vital. Experience builds a healthy mind, which in turn can build a healthy brain, and can do this even where our biology isn't ideal or perfect. When we talk about children with special needs, we are talking about doing this to the nth degree.

Well thank you for joining us and we will continue with these discussions and others in future weeks.