

Network Learning
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“It is in fact nothing short of a miracle that modern methods of instruction have not yet entirely strangled the holy curiosity of inquiry; for this delicate little plant, aside from stimulation, stands warmly in need of freedom; without this, it goes to wrack and ruin without fail.”

Albert Einstein

In what follows, I want to try to give a rough characterization of a set of ideas and practices that have been slowly emerging in my own teaching over a period of around a dozen years. I would not like this to be thought of as a contribution to methodology, a concept which I am terminally suspicious of in any context as full of real, particular, unrepeatable individuals as any serious learning encounter necessarily is. I keep rediscovering that what worked once for me in one context is dead wrong in another. If I am really after “magical learning,” as I am (more on this term below), I find that I have to always be willing to throw away all notes, all my little tricks which once worked, and improvise, improvise, improvise. Without that, the educational encounters that I participate in seem to get leaden.

Thus what I suggest for you, dear reader, is to read behind the suggested practices, to try to imagine the state of frustration, in my own mind, as well as in the minds of my fellow co-learners, which prompted me to try some of these unorthodox activities in the classroom. If you understand, because you too have felt, the frustration, then I ask you to let me know what you have done about it. What has worked for you? Maybe if enough of us work on ways to achieve truly incredible synergies in classrooms, we will slowly amass a body of experiments like those I report on below to help ourselves out of the bind that I see us as being in now.

I have, also with severe misgivings, been using a name for this more or less subversive activity: network learning. The reason that I dislike names is that too often, they turn into seeds for institutions, and institutions are crummy at improvisation. I think that I would be a bit happier with a name like “gorilla learning,” which seems to self-destruct nicely as a possible kernel for any future institution, but I have let myself be seduced by the glamor of the title of this paper - it makes what I am about to say have a sheen of respectability. Ergo: caveat lector!

- I. The basic notion: replacing the standard asymmetry of teacher (the one with the power, who gives grades, who knows what is the Right Answer, who rewards you for quoting it correctly on exams, in papers, etc.) vs. student (those who know nothing before they enter the course, who all learn exactly the same way, in the same sequence, at the same speed, who are lazy and irresponsible, and who would never learn anything on their own, without being pushed into it, etc., etc.) with the totally symmetrical, mutual, and collective notion of co-learning, an activity that is equally fascinating and challenging for all who meet in the educational encounter.

Co-learning seems to depend on two happenings, which can be distinguished logically, but which in practice occur in either order, or simultaneously. In short, they interpenetrate:

A. The group of people in the encounter, including those called professors, teachers, coaches, guides, etc. become a kind of collective being, or a superindividual. A bit like a network, or a circle of friends. Ideally, this being will come to life on the basis of a relationship of trust, respect, or in the best of cases, friendship, between each pair of people in the group.

The Jewel Network of Indra

In the heaven of Indra, there is a network of jewels, each pair of which is connected by a ray of light. Thus when any one of the jewels begins to shine more brightly, the radiance of the whole network increases.

The Buddha
Avatamsaka Sutra

B. The collective being decides what it wants to learn, and goes about learning it. This being has many voices, only one of which being that of the professor, teacher, etc. Often, perhaps even in a majority of cases, the most important information will come from one of the other voices. Everyone must learn to be on the *qui vive*, because no one can know for sure from which direction the next important fact or interpretation will emerge. It may well come from them themselves.

2. Absence of all asymmetries of power. Any use of compulsion, on the part of a professor, etc. (or on the part of anyone else, for that matter) interferes with the coming into being of the superindividual. Thus there are no grades, tests, homework, nothing assigned. No "musts." The relevant verb, for any teacher in the group (i. e., for anyone - we all become "the" teacher) is invite. If someone finds something interesting which they think that the network would profit from reading, then they suggest just that. Tests and homework are even possible, under two conditions: (a) people are invited to participate - nobody is forced to, and (b) the grades for anything are never to be communicated to any authority outside the classroom, unless the person who got the grade so desires. Primarily, they are not intended to be used as a yardstick for comparisons, but rather only as a sort of mirror, so that each person can see for themselves how well they are doing on mastering the material. The invitation to take a test, perform an experiment, write on some topic, etc., can come from anyone.

3. All communications are one-many, not many-one. Thus, instead of everyone turning in something to a teacher, if someone has found something of importance that they think the network would profit from knowing, then they xerox it and pass out copies to everybody. One very important many-many communication: at the end of the learning encounter, everyone is

invited, including “the” professor, to write a letter to the class, telling everyone else how it all was for them – what things worked, what things were a flop, saying goodbye to all their friends, etc. This way, a group of, say, thirty people can leave a learning experience with thirty different perspectives as to what that experience was, rather than just their own reaction. There is a richness of texture that such a “Dear Us” letter creates which has to be experienced to be understood.

4. Dialogue journals. If it is at all possible, this way of midwiving the network’s birth should definitely be attempted. It is the only activity in which there is a functional asymmetry between teacher and anyone else.

The teacher invites everyone to turn in at the end of each week a notebook, in which they have written something, writing, however, only on the right-hand pages. The left-hand pages are left blank, so that the teacher can reply. Over the weekend, the teacher responds to whatever was written.

What can the students write about? Absolutely anything at all. If the course, is, for example, a French course, the student can ask for help about any problems of grammar or interpretation, and so on. But - and this is extremely important - the journals are private: the teacher does not have the right to show them to anyone else, without the prior approval of the author. Thus the student can write about more private things: their fear that they are about to get fired, because of the salary cutbacks; their joy at the fact that they have been engaged for two years and now are finally going to get married in two months; the fact that they are foreign students, who have never lived in a violent country before, and that now, they can only afford a room in a dangerous part of the city - that they are afraid to go home at night. Or that their most favorite uncle of all has just been admitted to the hospital, with abdominal pains, and they fear for him, because there is a history of cancer in the family.

The teacher can also write about anything. If there are technical questions to answer, of course they will be answered from the perspective of any specialized knowledge that the teacher may have. And as for any personal things, where the teacher is not any special kind of expert, just someone who cares, the teacher will listen as attentively as possible, and will give the student their reactions, from sharing their joy, to expressing condolences, as any other ordinary person would.

Each journal can become a place of complete freedom for a pair of people. Teachers, of course, never will know what will await them as they open a journal, and will probably often be surprised to see what they find themselves answering. The students, too, will typically not know from week to week what they will want to write about next - they may want to take off from the teacher’s remarks the last time the journal was turned in, or they may choose to go off in a completely new direction. Journals are almost always a surprise, to whoever works with them.

Dialogue journals have been used for many years, with an extensive set of populations, ranging in age from children who have just learned to write, up through graduate students working on doctoral dissertations. There is even a bulletin that is published several times yearly for the network of people who are interested in the implications of the dialogue journal experience for wider educational issues. A central node in the network, who has been involved in this research since its inception, is:

Jana Staton, 629 Beverly Avenue,
Missoula, Montana. 59801-5919

5. Other things that have sometimes worked for me in helping the collective being of (rA) above emerge:

A. Seating: in a circle, of course. It's much harder to learn from someone if you can only see their back.

B. Introductions: on the first day, while getting acquainted, instead of going around the circle of people, it has often helped to break up into "triangles" - groups of three people, chosen if possible in such a way that no two people in any triangle knew each other previously. The members of the triangles talk for a while among themselves, until the members of each triangle are acquainted with one another, and then, when we come back to reform the big circle, two members of a triangle present the third member.

Also, this presenting is not necessarily done triangle by triangle - rather, the introductions run, as much as is possible, like a conversation. For example, suppose that someone from one triangle has just been introduced, one facet of whom is their interest in hang gliding. If there is another hang-glider in the room, the other two members of that triangle would naturally next introduce the other hang-glider to the class. Many unexpected coherences among the group's members can come to light more easily in this way, I believe.

C. Games. If anyone knows how to juggle, and how to teach juggling, bringing some balls to class and letting people start throwing them around, and of course, dropping them, is often a great ice-breaker. Another is a game that I call Human Topology, which goes like this: everybody stands in a circle, holds out their arms straight in front of them, and then puts their right arm over their left arm. Then each person holds the hand of one person with one hand, and another hand with the other hand. Neither of the people who you link up with may be immediately next to you. Linking up with someone all the way across the circle is a good idea.

When everyone has linked up to two non-neighboring class-members, then begins the job of untangling the linkages. You may loosen your grip on either of the hands that you are holding on to, in order to turn around, or to let someone step over or under your linked hands, but you may not let anyone's linked hands pass through an opening in this human chain of hands.

It's very interesting to see how the big knot of people can simplify, sometimes into one big ring, sometimes into two distinct ones, and sometimes into nothing - the knot just doesn't seem to want to go away. Whatever happens, the procedure is full of laughs, and often helps people start feeling comfortable with one another very fast. As do

D. Class parties. Frequent ones.

E. Marking material that has been handed in: use some other color of ink than red. The connotations of red are just too strong to be disregarded. Try using a less aggressive color. A friend, Ann Peters, suggested this to me, and I have since followed her advice. I

think that this apparently small thing makes in fact a surprisingly big difference.

F. Whose class? Try never to speak, or even think, of any educational encounter as “my class,” if your official role is that of “teacher,” nor of any of the members of the class as “my students.” If you are on the other end of the stick, try not to speak or think of the encounter as “Professor Shindig’s lab in biochem,” etc. Try to remember that it is always *our* class, and that everybody is everybody else’s student (or, equally well, teacher), and to always talk of it that way too.

G. In-class reading: a wonderful short (4 pages) text that can be read in class and discussed, is Carl Rogers’ “Personal thoughts on learning and teaching,” which appears in two of Rogers’ books: *On Becoming a Person*, and *Freedom to Learn*. Cf. also

<http://www.panarchy.org/rogers/learning.html>

Rogers presents the philosophy of co-learning much better than I know how to.

J. The principal objective of all of these suggestions is to foster a kind of educational encounter which I have come to call *magic learning*, to give it a name. Sometimes we have been lucky enough, many of us, to have been in some traditional school or university setting and to have taken a course in which all the stereotyped roles of teacher and student somehow didn’t make any difference, and were transcended. The material that we studied together may still be active in our minds – maybe we still keep reading books in, or thinking about, the area. That would be one way in which the course, though officially and apparently over, could have outwitted the artificial limitations imposed by the end of a term, or summer session, etc.

But there is another, less obvious, way for the course to stay alive in our minds and lives. To see what this way is, let us think for a minute about what it is that we learn in a class, say a Russian class.

Of course, we learn some Russian. But let us ask ourselves, if we have had the experience of having learned two different languages at different times in our lives (if we have not had this experience ourselves, we can easily find many people who have, and we can ask one of them), which of our two languages was the easiest to learn?

Interestingly, even if we have not had this experience ourselves, and don’t happen to have anyone handy who we can ask, we still know what the answer is. Unless the first language was a language very close to English in its structure, like say French, and the second was wildly different, like say Chinese, where we probably would have found the first language easier, the second time that we learn a language, it is easier than the first time.

And why might that be? For one answer, we can make use of a distinction that was drawn by one of the great Renaissance thinkers of this century: the biologist/therapist/cyberneticist/(educational) philosopher Gregory Bateson. The distinction, which can, like a whole passel of useful tools, be found in the pages of Bateson’s *Steps to an Ecology of Mind*, is that between proto-learning (examples would be learning calculus, golf, cooking, wind-surfing, or Chinese) and deutero-learning

(which is learning how to learn). Obviously, while we are proto-learning our first language, we are deutero-learning the learning of languages in general. Thus when we learn Russian, we are not only learning that some languages can have case systems (which will help us when we learn German, Greek, Finnish, or Latin). or that there are languages which have a very free order of the elements of a clause (which will help with Papago and Warlpiri), we are also learning that many things in the grammar of English, which we always thought of as necessities of life – like articles, say – are just local options. In other words, Russian loosens some of the tightnesses of our mind, takes off some of the linguistic blinders with which we had unconsciously been restricting our notions of what languages can be.

In still other words, in our Russian class, at one level, we are learning about one language – Russian – but at a higher level, we are learning about Language Itself. That is one of the reasons why Goethe wrote that a person who did not know another language did not know their own.

“Wer keine Fremdsprache kennt, weiß nichts von seiner eigenen.”

[who no strange-language (= foreign language) knows, knows nothing of her/his own]

Johann Wolfgang von Goethe

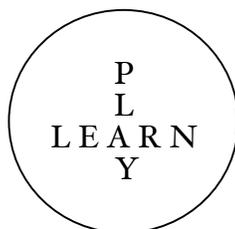
And there are many more levels that we can be learning at in our Russian class: for one, we are learning what it is to take a college-level course - what the homework is like, how to pass tests, how to psych out what the teacher is likely to ask us, and so on. And we may, if our Russian class was in fact an instance of magical learning for us, have learned that one can (learn how to) be changed for a lifetime by a learning encounter.

But we may have been getting ahead of ourselves. I am trying to give those of you who may not have ever had the experience of magical learning an idea of what it feels like. One way to describe the feeling is to say: our lives are permanently changed. And the only way for this permanence to be attained is for the course to never really be over. I may not still be studying Russian, but the joy that I shared with my classmates and our teacher (I think that it is possible to have a private, one-person magical learning experience - to be the only person of a group of forty who just adores a course and to have a teacher who is putting everyone else in the room to sleep - but that is not the real thing that I am interested in fostering. I want to look for ways to help everyone in the room achieve just this same kind of lift-off.) may be with me still. For what I learned was: learning itself is a source of joy. If I carry this truth with me, into new educational experiences, and learn to transform them, too, into joyous ones, there is a real sense in which my Russian class is still going on.

Let us pause for just a moment to ask this: can it be that this discovery - that learning is a source of joy - is really something new, which has just emerged from the particular chemistry of the interaction of the people in Russian 101? Or have I just stumbled again onto something very primal, which I have always known, at some level, and have just forgotten, possibly for many years? At this point, let me quote Friedrich Nietzsche's *Beyond Good and Evil*:

Philosophical thinking is...far less a discovery
than a recognition, a remembering, a return,
and a homecoming to a remote, primordial,
and inclusive household of the soul.

If we ask ourselves two questions – first, who are the planet’s best learners? and second, for whom is it obviously a continuous joy to learn? – it is clear that we can find one answer for both: children. When we were children, we knew well that learning was a joy. We may have forgotten it, due to some rough experiences at the hands of the educational establishment, but this knowledge is a part of our genes, something we can always return to. We are meant to learn. That is why we came here. Thus in the minds of children, there is only one verb, which would fuse the meanings of the two which big people’s languages seem to think they need, and which the diagram below attempts to indicate the indivisibility of:



So one of the parameters of network learning is slowly emerging: it is a way of attempting a **re**learning. Network learning is a way to help us return to the kind of learning that we came into the world equipped to do. Network learning is the way children who are playing together in the snow, making a snow fort, learn how to make roofs that are not too thin, walls that are not so weak that everything collapses when a window in them is opened up, and so on. The real “secret,” then, behind all the particular tricks and methods which I have been suggesting above is just this: find your Inner Child. Approach whatever it is that we are trying to learn together with exactly that Child’s sense of wonder, eagerness, openness, freshness, and cooperation.

I have spent a great deal of time talking about ways to help along the birth of the collective being, the superindividual, or the network which was mentioned in (1A). Some of them were parties, the abandoning of grades, sitting in a circle, the absence of any built-in asymmetries of power, such as the usual teacher-student one, and so on. In our present state, I think we also have to talk a great deal about it being all right to learn collectively, for the message which the traditional classroom has dinned into our heads for from ten to twenty of our most impressionable years is: knowledge is a one-person thing. For instance, when you learn, say, geography, you have to know all of the fifty states and their capitols. It is not acceptable for the kids in Mr. Smekinek’s fourth-grade class to set up a system in which Betsy knows the answers for the New England States, Ahmed knows them for the Mid-Atlantic ones, Zulécio for the Deep South, and so on. And yet such a sharing of data is an exact model for the kind of knowledge of a field that we will have when we become physicists or physicians: we may be an expert in superconductivity of polytripeptinase Zretch-fibers, and know nothing more about, say, shear points of copper splantring codon assemblages than that David What’s-his-face at Caltech is the first person to talk to. Or we may be wonderful heart surgeons with no knowledge of inner-ear goings on.

So it was fine to share knowing when we were in the sand-box, and it will be OK again when we get our own Tokamak accelerator, but there is an indefinite stretch in there in the middle – called Our Education – when it’s not supposed to be all right? Come on, gang – we can’t afford the luxury of such a cockamamy training any more, if in fact we ever could.

As is well known, the rate at which our knowledges are increasing in size and in so many different fields that no one even knows how many of them there are is already immense, and is getting more so at accelerations which we probably can’t

even accurately compute any longer. The idea that most of what we should learn should be of the one-person variety, as it is for the fifty states and Mr. Smekinek, is really not worth a lot of time criticizing. It's just dumb.

When one stops to think about it for just a minute, it is obvious what a graduate student in, say, Chemistry, or Oriental Art, is really supposed to learn in the course of their graduate education: they are supposed to learn the **field** of Chemistry, or the **field** of Oriental Art. But what is the field of chemistry? It is obvious that there are certain things that every chemist knows, things that can be put into books – the periodic table, the notations for reactions, and so on. And there are also certain laboratory skills – how to titrate, how to pour the acid into the water, not *vice versa*, etc. etc. And then every chemist (or any student, in any field) who writes a thesis learns the personal lessons involved in the perseverance and determination that it takes to mount a major research project and to stick with it, for a period of probably several years.

And then what? Well, our young chemist, with fresh Ph. D., starts to work somewhere, and begins, through reading, and above all, through personal encounters, to get to know the *real* field of chemistry, which is: **the world network of chemists**. That word again. Fields are networks [worse yet: these networks are dynamic organisms: they are *events*] of *people*; they are extremely complex events to study. They are much more like verbs than they are like nouns, for one thing, and they are riddled, as are any human institutions, with all kinds of drives and ambitions: territorial, sexual, and even conceptual ones. If you want to be a successful chemist, you have to know not only what is going on at Duke, SIU, la Sorbonne, Tokyo Daigaku,... in terms of the kinds of research, but you have to also know who has money, what schools are prestigious, who is feuding with who about what, who used to be sleeping with who but no longer is, and so on. And since you of course can't know all of that yourself, because there's just too much of it, you have to know enough of the people in the network to be able to identify the important information gates in it. If you don't know something yourself, you have to have some pretty good ideas about who you should get in touch with.

And let us ask, for just a minute, what we might mean by a distinction between good and bad fields. Here again it is clear: a good field is one whose members cooperate, and have something approaching the kind of multiple interconnections that characterize *The Jewel Net of Indra* [cf. (IA) above]. A bad field is one that is shot through with rivalries and warring factions, to such an extent that coverage and communication are impaired. Since humanity is best served by good fields, one of the tasks that anyone who is interested in the future of thought must grapple with is this: how can a bad field learn to become a good one?

Fields are so big that it is clearly impossible to get all the people in one together physically. Nor is it necessary. But what is necessary is precisely a change in thought. And there is a lot of urgency in this need, as Albert Einstein knew how to articulate, as well as anyone who I know of:

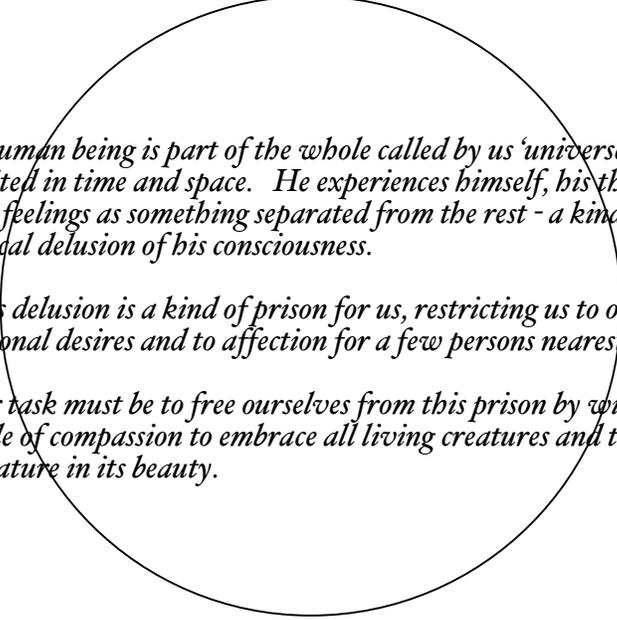
The unleashed power of the atom has changed
everything save the way we think. And thus we
drift toward unparalleled catastrophe.

The way we have been thinking has not been centered around the recognition that we are the nodes in the Jewel Network. And yet that is precisely who we are, on the deepest and most important level. I submit that what it is that we need to learn is just this: how can each of us help to improve the quality of each of the networks of which we are parts? I mean, of course, the network of professional chemists, but I also mean less imposing networks too, such as: the network of

parents involved in getting our kids safely to and from school; the network of the people in our family, the network of citizens in a democracy.

My own thinking about education has been far too limited. When I started this paper, I thought that what I was writing about was primarily about the educational system, traditionally viewed as something which is different from “real life.” But I am now beginning to see that the ability to be a good node in as many networks as you are able to will contribute to the lightedness of each of those networks. I believe deeply that what we need to work on, in all areas in our troubled world, is precisely our ability to be clear and radiant nodes. Network learning is, I think, probably just a very limited name for an ability of endless importance.

I would like to end, as I began, with a quote from Albert Einstein, whose description of the way that we need to think so that we may become free from the optical delusion of our consciousness is hauntingly beautiful, and comes to us with the force that can only be manifested by a being as advanced and clear as his life and struggles made him.



A human being is part of the whole called by us 'universe', a part limited in time and space. He experiences himself, his thoughts and feelings as something separated from the rest - a kind of optical delusion of his consciousness.

This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us.

Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty.