EMANUELE BONETTI
FRAMING COLLABORATION. HOW DECISIONS ARE TAKEN IN A COLLABORATIVE SYSTEM.

Introduction

A more collaborative approach seems to be a new direction in the design field. Looking to the past fifty years of graphic design we see how this profession, after a tradition of strong individualities, is now moving to the idea of workgroup. What in the past has been represented by figures such as Neville Brody[1] and David Carson, to cite the most significant for the eighties and the nineties, is now associated with studio names. Think for example about Tomato, Pentagram, Why Not Associates? and so on. The diffusion of the graphic design studio as an identity is a quite new phenomena but seems to be the general tendency for the future.

There are several advantages of working in a team, on a really practical level it can be seen as an opportunity to manage a bigger amount of projects at the same time. On a more conceptual level working in a team means bringing to the process many different points of view, which can be useful in order to avoid mistakes, to find and solve problems more easily relying on the fact that «four eyes see better than two», or even in order to have a multi-disciplinar approach[2].

I will not discuss in this text all the benefits that a collaborative methodology could give. What I would rather like to discuss is how, in processes that claim to be collaborative, the collaboration actually works. Or better I would like to analyze how much of these processes is the result of a collaborative work, and how much this collaboration is mediated by instruments of control in the decision making process.

After this first analysis I will discuss how decisions can be taken in a new collaborative model for graphic design, based on peer-to-peer collaboration. As I already said a more collaborative approach is quite a new tendency in design, and because of that it is still a not very developed alternative. Different ways have been already tried. But none of them have yet approached the idea of a collaboration in between designers working on the same aspect of the production. At this regard see for example the two main directions taken by design: "collaborative design[3]" and "participatory design[4]".

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[1] According to that is funny to see how Neville Brody, famous in the eighties for his personal research, has founded his own studio which hasn't even taken his name. His now working as "Research Studio" (http://www.researchstudios.com), relying on a wide group of designers.

[2] To have an idea of a multidisciplinary approach is interesting to look at the work of Troika (http://www.troika.uk.com), defined as "multi-disciplinary art and design practice". People working there have backgrounds in graphic and communication, art, product design and engineering which allow them to come out with projects that are equally involved in all these practices, project that because of the contemporary influence of so many disciplines can stand out from the masses of all the other projects referring to just one sphere.

[3] The so called "collaborative design" is a practice already quite well spread in complex artifacts, where the design of the final product would be so big that is necessary to divide it into sub products, each one with its own design process. At the end this process is a decentralized network where each node is charged of taking care of a single aspect of the whole design and then where "Each one of the nodes is self-interested, i.e. attempts to maximize its own local utility, at the same time it is seeking a satisfactory level of consistency with the nodes it is inter-dependent with"("The Dynamics of Collaborative Design: Insights From Complex Systems and Negotiation Research" - Mark Klein, Hiroki Sayama, Peyman Faratin and Yaneer Bar-Yam - cci.mit.edu/klein/papers/ceraj-02.pdf). Each one of the nodes works by itself without thinking too much at project as a whole, the interaction in between the nodes is not that developed, and the collaboration is limited to the act of putting together all the results of each subgroup.

[4] Participatory design is a practice that comes from architecture and urban planning, is taking more and more spaces even in other fields. The word "participatory" in this case is referring to the participation with the client or in a more general sense with the end user of a certain products. This practice is even called as user-centered since everything is built around the user, not only FOR the user but in a sense BY the user. Next to several examples of its application in urban design in the past years are emerging even some example of the its use even in the field of graphic design see at this matter "Design studies" theory and research in graphic design" by Audrey Bennet, chapter 12

This is also the reason why none of the three models I will discuss here comes from the traditional design field. The «Bazaar Model[5]» and the «Extreme Programming[6]» are both from the software development field, and the «Delphi Method[7]» is used in science and technology forecasting.

Even if these examples are referring to other fields they are significant as methodologies applicable to other disciplines as well, presenting aspects which can be generalized. Particularly significant is the fact that they are used to find solutions to problems that can be solved both objectively, in the first two cases, or subjectively, in the last case.

These three models are strongly relying on collaboration, but they are presenting some problems on the decision making level as well. As we will see there are several conflicts emerging, especially about who will take the final decision over the work of a group of people. We will see how it is not that obvious, when the work is done by a group, that will be the group itself charged to take the final decisions about it. If you expect to see a collaborative work as a completely democratic process we'll see how this is often not the case.

<u>FIRST PART:</u>
<u>THE CURRENT STATE OF DECISION-MAKING</u>
<u>IN COLLABORATIVE METHODS</u>

The Bazaar Model: a benevolent dictatorship

As Raymond describes, the key aspect of the Bazaar Model is the collaboration with the community of users/co-developers. In this model the community is asked to contribute to a piece of software reviewing it, testing it and eventually proposing changes. Since the project is open source everyone can take and modify the code, starting from the original source as well as from someone else's version.

"More users found more bugs because adding more users adds more different way of stressing the program, this effect is amplified when the users are co-developers. Each one approaches the task of bug characterization with a slightly different perceptual and analytical toolkit, a different angle of the problem"

Collaboration then grows easily through the networks. Bugs are found and fixed and new features are implemented and added. But what happens to all these versions? Is that really the product of a community? It is, of course, but only from a certain point of view. It is the community product since the use of a community allows a much wider range of different alternatives. But at the end is not the community that decides what will be the final piece of software. The final decision at the end is always of the project leader. The project started from his wish he is now in the role of "god". The leader has the power to decide what is good and what is bad. The community at the end is just working for him and can just hope to have its piece of code as part of the definitive release, or decide to start to develop its own version.

The first developer places itself in the god's position but he is obviously not omniscient. If we look

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5   The Bazaar model, firstly theorized by Eric S. Raymond, is a software development model, opposed to the cathedral one, both referring to the open source development. The cathedral model is characterized by a centralized way of development with clearly defined roles, in this model the source code is published and shared just at the end of the process with a stable, finished release. In the bazaar model the process is always completely open to the community, the code is developed in view of public and released often, with several versions each one with small changes — «The Cathedral and the Bazaar», Eric Steven Raymond - 2000(last revision) (http://catb.org/~esr/writings/cathedral-bazaar/cathedral-bazaar/)

6   (http://www.extremeprogramming.org/)

7   "The Delphi Method: Techniques and Applications", Harold A. Linstone and Murray Turoff 2002 (http://www.is.njit.edu/pubs/delphibook/)

for example at the history of the Linux development, we see how in some cases the decisions taken by Linus Torvalds were going against some of the community wishes, or at least they weren't so easily understood. The role of the project leader has been often associated with the one of a dictator, he's actually using the product of the community without giving any decisional power to them.

The solution at the end seems to be the project branching, as we were saying before, having different versions of the same projects proliferating. That might be a solution for the open source system. But if we try to generalize this methodology, we easily see how the collaboration claimed is not really maintained.
Eventually the final product will be somehow representative of the project leader. Even if he is listening to the community, the final decision will be his own interpretation of the needs. The mark of the project leader will always be present, with the risk to have the community again divided into single individualities, losing the advantages of collaboration.

Extreme programming: local decisions versus global decisions

The issue just mentioned has obviously something to do with the fact that the process is potentially open to everyone, that could be seen as one of the reasons of having different versions at the same time, since with such a large amount of co-developers would be impossible to work at the same time on just one piece.
Let's think then about a smaller community of developers: having a controlled number of participants already makes things easier. If the number is reasonably small we can think about having them working at the same time on the same product. That's what happens with Extreme Programming.

In this methodology there are several rules to follow on how the code should be written, one of them is defined as "collective ownership".

"Collective Ownership encourages everyone to contribute new ideas to all segments of the projects. Any developer can change any line of code to add functionalities, fix bugs and improve designs[8]"

At the end of the process then there is only one solution resulting, a solution where everyone has been participating, or at least he could have had. The design seems actually to be in this case the result of the collaboration within the community and everyone seems to be able to take decisions. But what are these decisions about?

While in the Bazaar Model anyone is free to add the changes he retains more appropriate, in this methodology one important role is played by strict guidelines. There is no space for improvisation or ideas referring to future possible implementations. According to the definition of Extreme Programming the software produced is the "one you need as you need it". The guidelines are then based on the temporary customer satisfaction. Anyone has the opportunity to think about future possible directions. Everything is based on small short-term tasks, the collaboration is restrict to a small frame, on the level of problem-solving and is not exploited in any creative sense.

Looking in a more pragmatic way to this practice we see somehow an attempt to improve and to take advantage of collaboration. Thinking about the technique of Pair Programming we see how the collaboration is pushed in this methodology[9], even on the sense of democratic decision-making.

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[8]   (http://www.extremeprogramming.org/rules/collective.html)

[9]   "All code to be sent into production is created by two people working together at a single computer. Pair programming increases software quality without impacting time to deliver. It is counter intuitive, but 2 people working at a single computer will add as much functionality as two working separately except that it will be much higher in quality. With increased quality comes big savings later in the project."

The fact is that the places where the decisions are taken collaboratively, from the design direction to the actual implementation, refer only to a local scale while in the global one are limited. Within the Pair Programming the two programmers act as a single one, each decision taken by the pair is the result of a collaboration in between the two, since they are absolutely free to interact and to change each other code. The pair programmed code is definitely the result of an extreme collaboration, product of the two of them in the same way. The fact is that these decisions refer to a too small scale to be effective on the general direction, and to see the extreme programming result as a real collaborative one.

The Delphi Method: the facilitator as a center of control

How would be possible then to have a collective decision-making process? In the Delphi Method the final result is given by a variable number of iteration through the community. The panel of experts charged to give a forecast are asked to answer individually to a questionnaire and then to share their conclusions with the others. At this point, looking at each other proposals they are free to rethink their first suggestions, considering for examples aspects emerging from the group in order to formulate a new proposal. This process goes on until a common line emerges, based on the fact that initially they'll have a wider range of alternatives which will tend to a common solution after few iterations.

It's important to mention at this point how, contrarily to the two methods referred to software development, this method is by definition used in order to find solutions to problems that cannot be objectively described. This aspects highlight the impossibility to use this method just in a problem-solving way. There are not only good and bad solutions and that's the point where collaboration shows its power. Collaboration is actually used in this case not to solve faster what is bad, but to find out what is actually good or not.

Comparing this method to the two just listed, looks already obvious how the collaboration in this case is pushed to a next level, having an importance not only on a practical level but even on the level of decisions. At the end this process can be seen as a decision-making process in itself.

But of course there are dark spots behind this completely democratic appearance. Let's look closely to what happens in between two iterations, or better if the decisions in a democratic decision-making process are taken in a democratic way too. Once that the questionnaires are filled they all pass to a facilitator[10], a figure which stands in the middle of the community. He is not part of the confrontation but he decides what is worth to push forward and what is not significant. Officially he's not taking decisions over the whole process, but been allowed to push back or forward some of the results can be definitively seen as center of control. What he's in charge of is to provide an anonymous summary to the experts. But if we start from the assumption that "four eyes see better than two", make no sense to have only one person deciding on the work of a whole group. Since this group of experts is supposed to be able to come to a common conclusion, I don't see the need of another figure giving them a summary of their own thoughts. That happens probably because, even if within a group the single experts are still acting individually, in the Delphi Method the group doesn't exist from the beginning but is built through iterations. The collaboration in this case is strongly mediated by the structure that, in order to avoid some of the problems of the group dynamics, tends to limit the idea of the group itself.

The group is divided into individuals and, in order to have the interaction in between the singles

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[10] "The person coordinating the Delphi method can be known as a facilitator, and facilitates the responses of their panel of experts, who are selected for a reason, usually that they hold knowledge on an opinion or view. The facilitator sends out questionnaires, surveys etc. and if the panel of experts accept, they follow instructions and present their views. Responses are collected and analyzed, then common and conflicting viewpoints are identified[...]" (http://en.wikipedia.org/wiki/Delphi_method)

working at its best, it has been framed so tightly that it loses some of its appeal.

The facilitator wouldn't be necessary if the group could be able to self-organize on more levels than what it actually does. It would be somehow enough to don't cut off any comments and since the group has demonstrate how is able to narrow down the range of alternatives, they'll probably be able to find out what's relevant or not.

The group as an individuality

What seems so far is that a totally collaborative process couldn't exist, or at least it hasn't been tried yet. Collaboration has been used for different proposals but at the end seems necessary, somewhere in the process, to have a center of control in order to avoid conflicts. At the same time, especially looking at the first example, it seems that an even more collaborative approach could bring more advantages. Raymond describes how, having the community of the potential users participating to the process, means being sure of having a base of customers[11]. But if the customers are able to design the product by themselves, or at least are able to work on it, why shouldn't they be able even to decide what the final product should be? I personally see a strong contradiction about having people designing a product without being able to decide if their changes will be effectively part of the product. If the "customer satisfaction" is improved listening to the customers, it would be even more if the costumers could not just propose changes but even decide about them. Leaving the group free to self-organize could bring more and more interesting solutions, if the same four eyes idea would be applied not just on a practical level but even on the decisional one.

But how is a democratic solution possible? Looking at the Delphi Method it seems possible to have the community deciding by itself, but what if the range of solutions would never be narrowed down because of the group dynamics? Is voting a solution?

It seems natural that if at a certain point the unanimity is not reached, they should vote. The proposals with the biggest amount of votes goes froward. But would all the people involved in the project be happy with it? How it would be to work in a compromise? Let's think for example if a third of the panel is not happy with the line taken, would they be enough motivated to go on? Or would they be tempted for example to branch? How could you find a way to keep the spirit up in the team?

SECOND PART:
CONSENSUS BASED DECISION-MAKING
IN PEER-TO-PEER DESIGN

In this second part I will set out a new model for collaborative design. A model completely based on peer-to-peer collaboration where all the designers involved have the same rights on the project. From its conception to the practical realization and eventually to the implementation of all the needed adjustments. I will describe here which are the possible risks in such a model, and define some possible solutions.

I will question the possibility of avoiding any center of control in the decision-making, looking to what that would mean for the *quality* of the decision taken. I will try to figure out if a design process can effectively exists without an *art direction* or, in other words, if the group can be the art director of itself.

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[11]"The Importance of having users" - "The Cathedral and the Bazaar", Eric Steven Raymond – 2000 (last revision)
    (http://catb.org/~esr/writings/cathedral-bazaar/cathedral-bazaar/ar01s03.html)

Consensus based decision vs voting systems.

Since we need to avoid any kind of central control we mainly have two possible decision-making approaches: a consensus based one and a voting system. The models I will describe here are based on the idea that a consensus based decision-making is the best solution for a group working in the design field. This kind of decision-making process is the only one based on the idea that people need to *interact* in order to find a solution that satisfies everyone

In a voting system, in fact, the final solution is chosen on the base of the majority, which means that a solution can be chosen even if not everyone in the group agrees on it. In this way some of the members of the group will end up working on something they don't like, and they don't want to develop further.

Also in a voting system the final decision is based on the proposals at the time of voting, and the system itself doesn't provide any space for discussion. That means that a voting system avoids completely the possibility of building something new out of the starting proposals, in this way the effect of collaboration is nullified.

As we will see in the rest of the text is not granted that the solution coming out from a consensus based decision-making satisfies everyone. At the same time there are several risks related to the quality of the decision taken. In particular the risk is that the group flattens out the variety of inputs derived by the presence of several individualities.

What we will see next is how these risks can be limited if not totally avoided.

The importance of saying 'no'.

Years of research in social psychology, especially those applied to human resource management, have demonstrated how the group, if not properly handled, could become a mediocre, shapeless mass. That's for example the case when people try to minimize the conflicts within the group in order to easily reach consensus, avoiding any critical test or analysis of their thoughts and proposals. This is what is defined in psychology as *groupthink*[12]. In this particular case the advantages derivable from the contemporary presence of several individual *creativities* are totally lost. People in the group don't even try to build on top of each other ideas since this would probably mean questioning them, leaving the "comfort zone of consensus thinking"[13].

Most of the problems of working in a group derive from the fact that people can be afraid of going against each other in order to keep stable a certain *group harmony*. That's exactly what happens when other phenomena, derived from *groupthink,* come true. People follow the main direction that emerges from the group, and this new group of followers will in turn influence a wider range of opinions. People will *jump on the bandwagon*[14], without questioning anymore if it makes sense or not, just to be part of the group. To don't disturb the calmness of the group, people would in some cases take decisions that none of them wishes, only because all of them think that the others would like to do

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[12]   "A mode of thinking that people engage in when they are deeply involved in a cohesive in-group, when the members' strivings for unanimity override their motivation to realistically appraise alternative courses of action." Janis, Irving L. "Victims of Groupthink." Boston. Houghton Mifflin Company, 1972

[13]   "Groupthink is a type of thought within a deeply cohesive in-group whose members try to minimize conflict and reach consensus without critically testing, analyzing, and evaluating ideas.[…] During groupthink, members of the group avoid promoting viewpoints outside the comfort zone of consensus thinking. A variety of motives for this may exist such as a desire to avoid being seen as foolish, or a desire to avoid embarrassing or angering other members of the group. Groupthink may cause groups to make hasty, irrational decisions, where individual doubts are set aside, for fear of upsetting the group's balance." (http://en.wikipedia.org/wiki/Groupthink)

[14]   "Bandwagon effect, also known as "cromo effect" and closely related to opportunism, is a phenomenon that people often do and believe things merely because many other people do and believe the same things." (http://en.wikipedia.org/wiki/Bandwagon_effect)

so[15].

If these conditions occur, the decision of the group work would always be a mediocre compromise, and group creativity would never be better then individual creativity. If questioning each other proposals is an issue better having someone, a project leader or a chief designer, dictating his own view than trying to find a compromise. On the other hand, as we were saying, questioning each other ideas and suggestions is the only possible starting point in order to build something new out of the initial inputs. If people could peacefully criticize each other they could also better interact in order to eventually find a new direction. This direction will not be the average of the starting ones but the one that comes from the reaction generated from two or more ideas in different members of the group.

The only possible solution to take full advantage of group work in a creative environment is to maximize the contribution of each individual to the community, making all the members of a group able to freely express their opinion, not ignoring or trying to avoid conflicts but shifting them into constructive confrontations.

Handling the individualities.

Appears obvious at this point that all the individualities in the group need to be treated as singles to don't lose their potential. This approach also presents several risks that need to be considered to don't end up with dynamics that are not constructive for the group. If having the members of a group afraid to contradict each other would too easily reach the consensus, with all the problems we just listed, paying too much attention on the single individualities could easily generate issues related to the contemporary presence of several different egos.

In the design model proposed here there are no predefined roles. Everyone is theoretically part of the group in the same way, contrarily to what normally happens, for example, in the traditional graphic design studio. In a peer-to-peer environment there are not such figures as boss and employees, or more in general as leaders and followers. But as we will see this kind of roles don't need to be planned in order to exist.

In fact, according to a study from 2009 by Cameron Anderson and Gavin J. Kilduff[16], leaders and followers are not roles that we decide to play. They are attitudes that we all have and that will naturally emerge once that we try to work in a group. Consequently even in an environment as the peer-to-peer one theorized here, where hierarchy is not suppose to exist, a certain kind of hierarchy will naturally emerge.

As demonstrated also in an experiment by Peter Naudé, Geoff Lockett, Gerard Islei and Philip Drinkwater[17] the contemporary presence of different psychological profiles in a group has a strong

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[15] "On a hot afternoon visiting in Coleman, Texas, the family is comfortably playing dominoes on a porch, until the father-in-law suggests that they take a trip to Abilene [53 miles north] for dinner. The wife says, "Sounds like a great idea." The husband, despite having reservations because the drive is long and hot, thinks that his preferences must be out-of-step with the group and says, "Sounds good to me. I just hope your mother wants to go." The mother-in-law then says, "Of course I want to go. I haven't been to Abilene in a long time." The drive is hot, dusty, and long. When they arrive at the cafeteria, the food is as bad as the drive. They arrive back home four hours later, exhausted.
One of them dishonestly says, "It was a great trip, wasn't it?" The mother-in-law says that, actually, she would rather have stayed home, but went along since the other three were so enthusiastic. The husband says, "I wasn't delighted to be doing what we were doing. I only went to satisfy the rest of you." The wife says, "I just went along to keep you happy. I would have had to be crazy to want to go out in the heat like that." The father-in-law then says that he only suggested it because he thought the others might be bored.
The group sits back, perplexed that they together decided to take a trip which none of them wanted. They each would have preferred to sit comfortably, but did not admit to it when they still had time to enjoy the afternoon."
Harvey, Jerry B. "The Abilene Paradox and other Meditations on Management". Organizational Dynamics, Summer 1974.

[16] Anderson, Cameron; Kilduff, Gavin J. "Why do dominant personalities attain influence in face-to-face groups? The competence-signaling effects of trait dominance." Journal of Personality and Social Psychology. Vol 96(2), Feb 2009, 491-503.

[17] P. Naudel (University of Bath), G. Lockett (2University of Leeds), G. Islei (3University of Oxford) and P. Drinkwater(Manchester Butsiness School) "An exploration into the influence of psychological profiles upon group decision making" Journal of the Operational Research Society 51, (2000),168-175; © 2000 Operational Research Society Ltd.

influence on the way the decision will be taken. Even where a hierarchy is not pre-defined, people will naturally adapt to the group taking the role they most commonly play. The final decision will then strongly depend on the relations that naturally emerge among the participants involved.

In general if a leader emerges his opinion will be always perceived as more relevant by the other members of the group. In this way the leader will have the power to drive the discussion wherever he wants: he is able to push his idea as the best one, or he is able to pick the one he retains more appropriate from the ones proposed by the followers. As we can see from the results of the experiment already cited, in presence of a leader even the emergence of majority doesn't have so much importance: the leader has the power to make the majority change his mind in favor of the solution he proposed.

It doesn't matter then if a leader is predefined, as we have seen in the first part about the Bazaar Model, or if he naturally emerges, as we are describing here. A leader is always a center of control and even if his presence doesn't completely preclude the effects of collaboration, it surely limits them. People will probably try to interact, but at the end the leader is always, consciously or not, the one with the last word. After some time people with the weakest egos will just renounce to push their opinions, waiting for a sign from the leader to move on.

This risk becomes even more dangerous if we consider the result of a second research by Anderson and Kilduff. This research shows how often the leader is only perceived as the most competent one, while he is actually only the one with the best skills in convincing the others of his opinion, the one who "talks first and more often"[18]. If a leader emerges the decision taken will not be the result of a collective, but probably just a direction chosen by the most charming guy in the group. Which means that at the end the ideas and the works proposed are not considered only for what they objectively are, but on the base of *who* proposed them.

The fact at this point is that having to deal with *real people*, there are not ultimate solutions for these issues. People can't go against their own nature and if someone has a natural bias for command this will emerge, soon or late. A natural leader will always be the most effective in a face to face discussion. What we can do is to define new structures that will allow the natural followers to express their ideas. Structures that make possible to judge works and ideas independently from any kind of information related to their authors.

This can be done including a *moderator* in the discussion, introducing *anonymity* and *alternating phases of individual and collective work*.

A new role for the moderator

We have already seen in the first part of this text how the role of the moderator is defined in the Delphi Method and how it can be seen as a center of control. Despite that, the moderator has been defined as a crucial role in most of the groups aiming to consensus.

The moderator is part of the group and his tasks are normally defined as:

- Balances people who talk a lot against quieter ones
- Elicits input from quiet ones
- Keeps the group on time and follows the agenda
- Clarifies muddy statements
- Identifies common threads
- Summarizes agreements and disagreements

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[18] "Leaders Emerge by Talking First and Most Often" -http://www.spring.org.uk/2009/02/leaders-emerge-by-talking-first-and.php

- Make sure all ideas are heard and understood
- Test for consensus, which means expressing what seems to be emerging from the group process[19]

As we can see some of these tasks closely regards the decision and they will probably put back the moderator in the position of control defined previously. The traditional definition of the moderator says that if the moderator "gets *hooked*" into having an opinion or feeling on an issue under consideration, he or she hands over the facilitation to someone else."[20]. The key point is that the moderator must not be placed in the position of having the chance to express an opinion

An optimal moderator should be someone completely neutral and external to the group, someone who "doesn't care" about the result of the discussion. In this way he could be concentrate only on monitoring the interaction among the participants, making sure that everyone in the group is having the same chances to express his or her opinion and that no one is trying to prevail the others.

All the tasks that will make the moderator dealing with the decision need to be avoided. From the list of tasks normally used, we must take out all the ones that put the moderator in the position of interpreting the group decision in order to present to the group a summary. The new list of tasks for the moderator could then be defined as follow:

- Balances people who talk a lot against quieter ones
- Elicits input from quiet ones
- Keeps the group on time and follows the agenda

In a way the moderator must be perceived by the participants as part of the work structure instead of being part of the group. He must not be perceived by the participants as someone who could help in the decision. His intervention should always be in order to safeguard the different individualities involved in the process. Letting someone speak if he or she is not doing so, or stopping someone who is trying too hard to push his or her position to the group.

Ultimately the effectiveness of the moderator cannot be proved. It cannot be seen as an objective solution to make sure that the decision taken is the result of consensus. In fact the moderator would have the power to lead the discussion, even in a more subtle way than what a leader does. At the end his validity will always depend on the moderator itself, on his own ability to handle group dynamics and to put himself in an external position.

Introducing a moderator is not a solution on its own but can be helpful if used together with other methodologies.

Ideas as ideas.

We have already started analyzing the aspects derived by the contemporary presence of different egos in the group. Ideas are not evaluated for what they are, but they carry a whole context with them.
In a face to face discussion in fact who is proposing a certain idea or a certain work becomes as important as the idea or the work proposed itself, if not even more important.

For example if someone in the group has managed to present him or herself as more competent, his or her proposal will be examined in a different way from the one proposed by someone else. Also if

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[19] Chel Avery, Brian Auvine, Barb Streibel, Lonnie Weiss "Building United Judgment: A Handbook for Consensus Decision Making" The Center for Conflict Resolution, Madison, WI, 1981.
Available at http://www.archive.org/details/BuildingUnitedJudgmentAHandbookForConsensusDecisionMaking

[20] Sheila Kerrigan "How To Use a Consensus Process To Make Decisions" -
http://www.communityarts.net/readingroom/archivefiles/2004/09/how_to_use_a_co.php

the members of the group are respectively aware of each other experiences, the group will tend to consider the proposal of the most experienced member as more effective. This is also what happens in the traditional hierarchical system, where an idea coming from the top of the pyramid is taken as good, and this is exactly what a peer-to-peer environment could avoid.

Once that the group is approaching the decision each proposal needs to be valuate for what it actually expresses, independently from any background information on the participant who proposed it.

In addition to that, starting to consider ideas for what they are, will force people to better articulate their proposals. It would force them to question better their own suggestions, if they really want to convince people of their opinion. In this way the best idea would probably pass through, but only after a confrontation that on one hand could change the proposal itself, and on the other hand would make people more aware of what they are doing. In such a way, for example, people with less experience will have the chance to work on something they have understood, and eventually shared, with a huge improvement on the training and learning process.

Introducing anonymity

A way to make the group able to consider the proposals for what they effectively are, would be to collect them anonymously. Anonymity is already used, for example, in the Delphi Method in order to avoid group dynamics, and to make people freer to express their opinion and to criticize each other. In the Delphi Method none of the suggestions can be brought back to the expert who proposed it, in this way people are freer to reconsider their own ideas on the base of what comes from the rest of the group.

However in the Delphi Method the participants don't know each other, and as we have seen before, they practically never interact with each other. How could we apply such a method to a context where the members of the group do know each others, and where the decision making is based on the interaction in between all the different parts?

Some of these aspects have been already tested in 1990 in an experiment by Terry Connolly, Leonard Jessup and Joseph Valacich. In this experiment the main interest was to test the effect of anonymity in a Group Decision Support System used in a group "working on creative, idea-generating task". People were divided in two groups and they were asked to constantly react to each other ideas in order to develop them. In one of the two groups people were respectively introduced at the beginning of the experiment and during the discussion each reaction came together with the name of the participant. In the other group all the participants were interacting anonymously.

The results of the experiment demonstrates that "groups working anonymously and with a critical confederate produced the greatest number of original solutions and overall comments.(While) identified groups working with a supportive confederate were the most satisfied and had the highest level of perceived effectiveness, *but* produced the fewest original solutions and overall comments"[21]

With the technology available nowadays a certain level of anonymity can be easily introduced. The face to face discussion can be, for example, replaced with an anonymous chat. Better if avoiding also any kind of nicknames. In this way it will became impossible to link any of the sentences to its author. It might sound confusing but in this way the discussion would work more like a single bigger brain, able to react to itself quickly, spotting all kind of lacks but also building on top of all the different stimulus until it reaches a final satisfactory solution.

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[21]   Terry Connolly, Leonard M. Jessup, Joseph S. Valacich "Effects of anonymity and evaluative tone on idea generation in computer-mediated groups" Management Sciente, Vol. 36, No. 6 (Jun. 1990), pp 689-703

The group will then work as a single, as suggested in the end of the first part of this text, since everything will be placed into the collective container but at the same time all the individualities involved will be free to work on their own. The discussion and the interaction among the participants will move to the level of *practical things* and all kind of influences derived by the fact that *persons* are involved will disappear. The bandwagon effect and all the other dynamics related to an effective or perceived majority won't exist anymore since the *concept of majority* itself will not make sense anymore. Only the group will emerge as entity, with all its invisible individaulities.

This method has been applied on the Pickpic web platform[22] also for the practical works and for the images that are part of a visual research. In this way people give up their own private ownership in favor of the collective one. Everything, all the works proposed and all the images suggested, belong to the group itself. Works, suggestions and ideas have to stand on their own and be judged for what they effectively are, all the backgrounds information are dismissed and all the ideas start from the same level. Not only that but being able to comment each other resources anonymously people probably feel freer to express their opinion since they cannot be personally judged for that. "Anonymity should encourage full participation of junior or shy group members, and expression of unpopular, novel or heretical opinions.[23]"

Introducing anonymity in this way will bring to the consensus based decision the advantages of an anonymous voting system, discarding its shortcomings. If the risk in the consensus based decision was to have people intimidate by talking face to face now they have the chance to hide behind their anonymity and to let their proposal speaks for them. If the risk in an anonymous voting system was that it only refers to the proposals made at the time of voting, this system now gives to the participant the possibility to discuss in order to change them without being personally exposed.

Individual and collective phases in group work

We discussed so far *how* the decision making would need to be structured in a design environment based on peer-to-peer collaboration. In the last part of this text I will then define *when* decisions need to be taken and *what kind* of decision needs to be taken in order to maximize the contribution of the group and all its individualities. In particular I will describe how phases of individual and collective work could be alternate comparing this approach to what normally happen in other kind of collective methods.

One of the most common group-technique in design studios is *brainstorming[24]*. This practice has become more and more popular since it was invented in 1953 and it is proposed as an effective way to take advantage of the group creativity, but nevertheless there are no proof of its effectiveness.

One of the most common risk in brainstorming is the so-called *production blocking*. This risk is defined as the tendency for one of the member of the group to block or inhibit other people during a group discussion.

If that happen only the people who are more comfortable with a face to face discussion will be able to propose their idea and the interaction that is the base of brainstorming effectiveness is nullified. All the potential proposals from the participants who are not comfortable with a face to face discussion will be lost, only because the method itself doesn't take care of the differences in between

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22   On Pickpic (pickpic.parcodiyellowstone.it) is possibile to create a project board to be shared among the members of a group. All the images, comments and works posted to the board are anonymous. They don't belong to the member of the group who uploaded them but only to the group itself

23   Terry Connolly, Leonard M. Jessup, Joseph S. Valacich "Effects of anonymity and evaluative tone on idea generation in computer-mediated groups" Management Sciente, Vol. 36, No. 6 (Jun. 1990), pp 689-703 – "Several authors (e.g. Kraemer and King 1988; Huber 1982; Nunamaker, Applegate and Konsynski 1988; Turoff and Hiltz 1982) have identified the anonymity option as a particular virtue of GDSSs, in that anonymity should encourage full participation of junior or shy group members, and expression of unpopular, novel or heretical opinions."

24   (http://en.wikipedia.org/wiki/Brainstorming)

all the individualities involved.

Production blocking is once again related to the contemprary presents of different egos. It comes from the assumption that all the members of the group are able to equally contribute and that everyone will approach the problem in the same way. As we have seen this is simply not true. People that can *think faster* or that have less problems in shooting ideas will naturally emerge, as well as people that need more time to think about the issue discussed.

Moreover already in 1958 has been demonstrated that brainstorming, contrarily to what is normally assumed, doesn't facilitate creative thinking. "A given numbers of individuals working in a group appear more likely to pursue the same train of thought - to have the same approach to the problem - than do the same number of individual working alone"[25]. In other words people involved in brainstorming seem to get stuck in the first few ideas proposed. Brainstorming takes advantage of the group in developing an idea but it cuts off all the potential proposals that the members of the group could have had if they didn't start reacting to the first idea.

Assuming that the first idea will be proposed by the member who is more comfortable in a face to face meeting the final decision will be, in the best case, just an evolution of that first idea.

A possible solution to this problem would be to alternate phases of collective work with phases of individual work.

Let's stick to the example of brainstorming: it would be much easier to deal with the group if everyone would have had first the time to think about the problem on his or her own. Imagine if everyone in the group would have to come to the meeting with at least one proposal. In this case everyone will have something to say in the group meeting and the number of solutions discussed will be at least the number of the participants involved. Also in this way everyone would have the chance to approach the issue in the way he or she is more confident with, without the pressure of the group. After that the group would have the time to discuss all the alternatives looking for a common ground to move forward.

In this way we will be able to take advantage at the same time of individual and group creativity. In the phase of individual work everyone could approach the issue in his or her personal way. The variety of different individual proposals, approaches and points of view will be then pulled into a collective discussion where people could start *interact* with each other, building on top of each other solutions in order to reach a common one. Each participant will face the discussion aware of the issue and with a personal position. In this way will be easier to discuss a common proposal since everyone is able to bring something to the collectivity.

The new risk in this case is that the participant will approach the group phase with a too well defined proposal. The last aspect I will descrive here is in fact how these different phases need to be structured or in other words *what kind* of decision need to be taken.

Micro-decisions vs Macro-decision

Approaching the collective meeting with a too finished proposals will present several risks.

First of all there will be not space for discussion over such a proposal. The group could express in favor or against it, but since the proposal is *totally defined* it will be too late for the group too push it into an other direction without distorting it.

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[25]   Donald W. Taylor, Paul C. Berry, Clifford H. Block "Does group participation when using brainstorming facilitate or inhibit creative thinking?" – Administrative Science Quarterly, Vol 3, No.1 (Jun. 1958) pp 23-47

Secondly working on a finished proposal normally means spending a lot of time on it. Defining something that might not meet the interest of the group at all. In this case all the time invested on that proposal will be wasted with consequent frustration for the designer.

Moreover working for a lot of time on an individual proposal people will tend to get attached to it and it will become harder to renounce it in favor of somebody else's alternative.

For all these reasons reaching consensus discussing finished proposals is almost impossible. People will reluctantly renounce to their position and even if they will do it the space for discussion, where the group could give its contribution, will be limited. The discussion in this case will be just in order to pick one of the proposals without having the effective chance to improve it.

In order to avoid this risk the final decision can be divided into several sub-decisions. In this way the group will progressively build the consensus setting up at every step a common ground to move forward. The main problem can be divided into sub-problems that refer to different level of details. In this way the group will first have to agree on a main direction, once that the decision at this regard is taken the group can move to a more detailed level.

These phases of collective decision will be then intervalled with phases of individual work, as previously defined.

In this way the consensus is build through the whole process and the group doesn't have to try to reach the consensus in one time. In addition to that every time that the group will meet it will start from a common ground as previously agreed. This will allow the group to concentrate in considering every time only one particular aspect of the project.
In this way every point discussed and agreed by the group can be explored by all the different members. Each member is now free to give his or her own interpretation which will become one of the starting point of the next discussion. Also even the participants who have more problems in expressing their ideas in a face to face confrontation will have the chance to practically show what they have in mind. A different designers could be able to move the project in a direction that wasn't planned by the original author of the starting proposal. In each individual phase the potential of an idea would be developed in several different ways and the range of alternative will surely increase.

However all the participants need to be aware of the importance of respecting each single phase. Not respecting the goal of a phase would in fact push the whole group out of sync. Organizing the work-flow in progressive phases put the group in the condition of discussing every time a very specific aspect of the project. If the members are not synchronized with each other the inputs of the discussion will be conflicting and the discussion itself could not properly happen. The group will be able to discuss, compare and change the different alternatives to eventually pick the final one only if everyone will push solutions that refer to the same aspect to the collective.

Conclusions

Dealing with consensus based decision-making process is not an easy task.
Especially if we want to apply it to a context, as graphic design, where a solution that *everyone can live with* will not be enough, and where we are instead looking for a solution that really satisfy everyone. Treating the decision-making using the methodologies discussed here will help people communicating and interacting with each others. Introducing a moderator, using anonymity and alternating phases of individual and collective work will define a new environment where the natural emergence of hierarchy will be at least limited and where the good sides offered by individual and collective creativity come together.

However an important role will be always played by the people involved in the process. Working in a

peer-to-peer environment is probably not for everyone and surely it's not the model of collaboration proposed by our contemporary society.

In order to work in a peer-to-peer environment designer will first need to be strongly convinced that confrontation and discussion are the base for better results. They need to be open to critics and available to step out from their position when it becomes necessary.

Only in this way a professional environment based on peer-to-peer collaboration will effectively show its potential.