

# PERFECTION

The Journal of the Pi Society

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## The Pi Society

14 avenue Condorcet, 69100 Villeurbanne, France

Je me suis souvent hasardé dans ma vie à avancer des propositions dont je n'étais pas sûr ; mais tout ce que j'ai écrit là est depuis bientôt un an dans ma tête, et il est trop de mon intérêt de ne pas me tromper pour qu'on me soupçonne d'avoir énoncé des théorèmes dont je n'aurais pas la démonstration complète. Evariste Galois

## Description

Name of the society : The Pi Society  
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## Qualifying Scores

The following are minimum qualifying scores for membership in the Pi Society.

Test by P. Cooijmans : The Nemesis Test  
Test by P. Cooijmans : Test for Genius (short form) (before 1999)  
Test by P. Cooijmans : Test for Genius (long form)  
Test by P. Cooijmans : Space, Time and Hyperspace  
Test by P. Cooijmans : Daedalus Test  
Test by P. Cooijmans : The Test to End All Tests  
Test by R. Hoeflin, Ph.D. : Mega Test (before 1999)  
Test by R. Hoeflin, Ph.D. : Titan Test (before 1999)  
Test by R. Hoeflin, Ph.D. : The Hoeflin Power Test (before 2000)  
Test by K. Langdon : LAIT (before 1994)  
Test by R. Lato : Logima Strictica 36  
Test by N. Lygeros, Ph.D. : G-Test

# The Vitruvian

Q. T. Jackson

Ja'el finished his final rep, exhausted, but feeling good. Everything fell into place when he walked away from the unit. His body moved cleanly, perfectly, one foot in front of another. His mind was clear, fresh, and ready. His breathing was good as he looked into the mirror and went over in his head the calculations he had been given earlier.

"I feel ready," he said to his mentor.

Dufan, his mentor since as long as he could remember, stood from his chair, approached him, and patted him on his sweaty back. "You are ready," Dufan agreed. "The Determination comes tomorrow."

"They will say that I am ready," Ja'el replied. "Saud's should be over today."

"Saud is at least a three," Dufan replied. "You may be a four. I cannot know these things in advance."

Ja'el wiped his sweat away with a towel. He had known Saud since childhood. They had mentored together. Saud was his equal in every way.

"Why do you say that Saud may only be a three?" Ja'el asked.

"He favors his left hand," Dufan explained. "Just a little, but enough to notice. It may cost him. You, however, are completely ambidextrous."

"Well, even so, even if it happens, one point will not be a problem."

"Ah, and as I say, I cannot know how the Testing is going to be for any given individual, you know. There are portions that are geared to the individual. The psychological portions ... those are unique." Dufan shuddered when he said his last word.

"I am prepared to face my worst fear and bounce back with all my might," Ja'el said. "I know what it is, and I have controlled it."

He had changed into his street clothes again, and was ready to leave the gymnasium. "Would you like to join me for lunch, Dufan?"

"No, I wish to exercise some more. I am a bit nervous about Saud's VQ, too."

As Ja'el approached the elevator, he continued to go over the calculations in his head. He looked at his watch, and calculated the number of seconds that had passed since he had last looked. His mind was clear, ready for anything the Testing would challenge him with. In the elevator with him was a very nice looking young woman. He could see from her mark that she was a four. Since he had not yet been marked, it was safe to talk with her.

"I am to be determined tomorrow," he said.

The young woman looked him up and down. "So close to determining, I usually don't speak with handsome unmarked," she replied. "I may get to like you, and then find out that you are right handed, and your navel is out, and then where would I be after the Marking?"

Ja'el laughed. She had a clear voice. Her eyes were brown, her hair a perfect match for her eyes. If his Marking left him with a four, he could even court her. As a four herself, she had to be interesting. She looked interesting. She was a four.

"Then wait until next week? If you give me your number, I will contact you."

"Only if you are four?" she made him promise. She transferred her number to his unit.

"You are very beautiful," he said.

"Be balanced," she said as she exited the elevator on her floor. "I shall see you again, perhaps."

Ja'el continued to his floor, got out of the elevator, and walked outside. It was a beautiful day. He looked up to the weather mark, and saw that the day was a five. Wonderful! A very rare day indeed! Since it was a five day, and he was unmarked, he was free to walk about the streets. Five days were always nice, since there were so few fives. Five days also came the least often, out of necessity. Most days were crowded, busy. Five days were reserved for the unmarked, and for the fives, making life so much more enjoyable, even for a short time.

The streets were almost empty, and most who were on the streets were unmarked, like him. Within a few weeks, if the Determining said it was his time to be tested, five days would no longer be for him. He would have to settle for four days, which were a little more busy than five, but they did come more often.

He decided to sit on a bench and stick his legs out and enjoy the sunshine. As he went over his history lessons in his mind, he saw, from the corner of his eye, that a four had come out on the street. Two finers approached the intruder, demanded to see a Necessity Permit, and when the permit was not produced, fined the man heavily. The fine for being a four out on the street on a five day was only one deviation, and so, the man would be able to pay it. But it would remind him to think before coming out on a five day again.

After an hour of sitting in the sun, Ja'el returned home on an unmarked transport. He had considered taking a five transport, since being unmarked would have allowed him to, but they did not come by as often, even on five days, since they were so rarely needed. Once home, he greeted his parents.

"It was a five day today in the center," he said.

"Take it in?" his father asked. In the suburbs, where they lived, it had been rated a three day, and so his father was inside, working from his home terminal.

"Such a beautiful day!"

"Wouldn't it be nice to be a five, and only have sunny days?" his father said.

"Why didn't you get a Necessity Permit to go to work?" Ja'el asked his father. "Didn't you say there was a meeting?"

"I only have fifteen permit credits for the next year," his father replied. "When your mother was ill last month, I used ten up, just visiting her in the hospital, since there were so many two and three days."

"What was the fine for missing the meeting?" Ja'el asked.

"Not very bad. It was only a three meeting, so it was at par."

Ja'el was relieved to hear that the fine hadn't been high, since he felt bad about him having used so many credits to pay Dufan to train him for the Testing. His father, a four, had absolutely no desire to see him rate a three, even though one point would not separate family in the way two points would. He wanted him to have all of the four opportunities he had had in life.

It was then that Ja'el's mother returned from her work. She was also a four, and must have used a credit to travel to and from work at the hospital. Her face was very pale when she came into the room.

"What's the matter?" Ja'el asked.

"Another PTS," she said. "A very awful case."

Ja'el knew not to ask for any more details. Post-Test Suicides were something best not talked about.

The family ate dinner together before the telephone rang. The details were that the caller wanted to speak with Ja'el, and that the caller was a two. Since he was unmarked, the call hadn't cost the caller any credit, so he picked it up, curious.

"You're not going to believe this," came Saud's voice.

"Saud? Are you using a two's phone?"

"I've been marked," Saud replied.

"Two?" Ja'el nearly heaved. "But, Saud, how?"

"I favor my left," Saud replied. "And I lost it when they feared me. Totally lost it."

Ja'el swallowed hard. His best friend for many years, barely older than he was, had been marked for life as a two. He would get two work, and pay credit to see anything clearer than a rainy day. He was set for a life of working from home as a credit monitoring guard.

"I don't know what to say," Ja'el returned.

"I've lost you as a friend," Saud said, stoically.

"Listen," Ja'el tried to comfort his friend, "I haven't even been determined yet, let alone gone through the Testing or the Marking. We don't know anything yet. We still have tonight with me as an unmarked. How about I use some of my credit to get you and me to a ..."

Saud disconnected, leaving Ja'el to talk with himself.

"Can you believe it?" Ja'el mumbled as he returned to his parents. "Saud was marked a two."

Their faces both visibly dropped.

"How is he taking it?" his mother asked. "I've seen one too many PTSs this year."

"He seems like anyone would be after the shock," Ja'el replied. He bid his leave, cleaned his teeth, and went to bed. The next morning, he took a five transport to be Determined.

The nurse who took his blood for testing was a three. She was not as pretty as the four Ja'el had met in the elevator the day before, but she was friendly. It was easy to be friendly to an unmarked. An hour later, the blood test determined that he had stopped maturing. He would grow no more. It was time.

The next week was a week of final preparation. Ja'el spent the week in contemplation of calculations, exercising, and meditating. Although his mind was usually on his practice with his mentor, he could not push Saud's situation from his thoughts.

Dufan was not pleased with Saud for having broken under the fear testing. It did not make sense to him that Saud, who had been prepared to face his worst fear, would have snapped, after so many years of identifying that fear and facing it in meditation and with Dufan. What had gone wrong? He should have rated, at worst, a three, because he was not totally ambidextrous.

The final week passed, and Ja'el went to the place of the Testing. No one was allowed to know where this place was, since it could have been spied upon, so all the Tested were put to sleep, and awoken when they arrived.

First, Ja'el was measured. Every inch of his body was examined by doctors. The distances from his navel to the tip of his left and right forefinger were measured. The width of his head was measured, the circumference, the density was calculated. Ratios were figured, his blood was tested, his teeth were examined, his pupils measured in different states of stimulation.

His hearing was tested, his sense of smell, and even the hairs on his head were counted by averaging ten patches on his scalp. Finally, the static portion of his examination was completed.

Next, came the dynamic physical tests. His balance was tested. He played tennis against a five and the score was recorded. He walked a tightrope, and was timed. These tests lasted a week.

After the physical tests, his intellect was tested. He was asked an enormous number of questions, each successively harder. As he answered, the time between questions was altered, sometimes more quickly, sometimes less. He was asked to put puzzles together, find the shortest path, solve equations, and wandered a progressively more difficult mental maze.

Finally, the psychological portion of the Testing began. After having been given no rest from the intellectual testing, he was placed in an empty room, with no chair, and told to wait. At first, he expected that he was waiting for someone, or at least some thing. No one came. Nothing happened.

Perhaps this was one of the tests? To see what he would do in an empty room, if left for hours? He sat on the floor, cross legged, and meditated. As soon as he did this, a voice over the loudspeaker spoke out saying, "Stand up!"

He did. More time passed. Finally, the voice called out, "How long have you been waiting?"

Ja'el closed his eyes for a few moments and calibrated his internal sense of time. "Five hours, fifteen minutes, and thirty seconds," he called out.

The door to the room opened, and he was led to a washroom, where he relieved himself. From there, he was led to yet another room that had a bed in it, a small cabinet with food, and a toilet. No one said anything to him, but left him in the room.

He went to sleep on the bed.

Just as he was beginning to dream, a voice called out, "Wake up!" and he was awake. He fell back to sleep.

"Wake up!"

Finally, the door to the room opened again, and a short man, a one, approached him. It made no sense that a one worked at the testing center. "Hello," the one said, "I am Dr. Fant."

"How?"

"How what?" the one replied.

"How?" he asked again, as he pointed at the man's mark.

"How what?" the one replied again.

The one left the room after taking some blood pressure and other measurements. When the door closed, Ja'el finally fell to sleep without being awoken. When he did awake, a voice asked over the sound system, "How long were you asleep, in total?"

Ja'el was not sure. Had the calls to wake up and the one doctor been a dream? He did not know what to say. Surely, the one doctor had been a dream, and if so, he had been asleep all along, and therefore, he had been asleep for eight hours, according to his internal clock. But if they knew he would reason this way, then he had been asleep for a total of six hours, in three sessions.

"If there is no Dr. Fant who is a one," he replied, finally, "eight hours. If there is, six hours." He reasoned that this double answer was the best compromise he could offer.

The remainder of the psychological testing went on for a week, but Ja'el was surprised that he was never confronted by an induced vision of his worst fear. He knew what that fear was, but it had not been induced chemically to see how he would react to it.

After the Testing was completed, he was led to an office. In this well decorated office sat a man who looked exactly like Dr. Fant, but who was a six. Sixes were very, very rare. He had never known a six.

"Sit down, please, please," he said to Ja'el.

Ja'el sat down.

"Do you know what you are to be marked? Do you have any suspicion at all?" the man asked.

"Four," Ja'el said, confidently.

"Are you absolutely sure?" the man asked.

"Three?" Ja'el said with a laugh.

"Now, come on, Ja'el, don't play stupid with me. You're not three material, and you know it. You are closer to being the Vitruvian than that. You, sir, are to be marked a six."

Six? As a six, he would not be able to phone his parents without paying, or they him. Saud could never afford to visit on a two's salary. Even the pretty young woman in the elevator couldn't afford to talk to him much.

"Pardon me?" he sputtered.

"Sixes, as you know are six standard deviations from the mean. Your Vitruvian Quotient is extremely high in all areas. I particularly enjoyed your ability to reason on the question about how long you'd been asleep."

"But how did you appear marked as a one? I thought?"

The man took out a small instrument and punched a few buttons. "There, now I am a two. Now I am a one." He handed the instrument to Ja'el. "We're the Testers. We are permitted to do anything we must to test what we must."

"I have a friend, Saud, who..."

"Ah, Saud. Yes. I tested him, too, actually. We Testers usually take on those mentored by the same mentor. Saud was a very nice young man. It was unfortunate that he became so agitated by the psychological portions. Had he not, he would have easily been a three."

"And now he and I can't keep in touch, without bankrupting our resources to do so," Ja'el complained.

"Once you have lived a while as a six, rather than an unmarked," the man said, taking back the instrument that changed his mark, "you will come to understand that life as a six is so rewarding that such problems as the cost of visiting an old two friend is nothing compared to the treasures that await. Other sixes will contact you, you can marry anyone you want who is a five, or a six, you will have such options that even your four parents couldn't dream of. You will even be permitted into the six learning centers, where even the unmarked are not allowed with Unmarked Grace."

"But why would I want to be a six, and abandon a friend who became a two because of one moment, during the Testing, that he fell short? What would that make me? Certainly not an honorable human being."

The man clapped his hands together, smiled, and said, "What you will one day come to realize as a fully marked six is that this kind of thinking, this questioning, this doubt - this is a six characteristic. It comes with the territory, Ja'el." He sat down.

"They, the one's through fives, go through their lives making excuses for all of this Marking and Testing to make perfect, justified sense."

"Pardon? What does this have to do with Saud?" Ja'el asked.

"We sixes, by virtue of being sixes, are permitted by law to question everything about society that should be different. We're the ones who get things done. We write the documents that set policy. We put things in motion that make things more equitable. That is how you'll have to accept you're going to make a difference. Not by spending time with your old friend Saud, but by joining us and getting something concrete done."

Ja'el tried to understand this man's tack, but could not. Saud was a friend, not a concept, not a policy. He tapped his toe on the floor.

"As a six, you are free to raise hell," the man finally explained. "As anything less than a six, you are free to walk in a straight line, controlled by your mark. Which would you prefer? By law, you are free to choose any Marking below what you have been tested. I can't remember a six ever having done such a silly thing, but it is your choice."

"Can I think on it?" Ja'el asked.

"By law," the man said, straight faced, "you have one week from the time that the Testing is completed, to the time of Marking, to decide if you wish to be marked lower. There's no turning back, however. And you cannot be allowed back into society without being marked. Why don't you really do a whole lot of research in the next week, to see what you're considering."

Ja'el shook the man's hand and asked to be led to his quarters. His room had a terminal, and so he went to it and typed, "List all known sixes."

A list of those sixes who had chosen to be in the public listing came up. He followed their names, read about their public lives, studied their careers, their accomplishments. No one in the list seemed to want for anything in their lives. He wondered how many of them had given up friends who had been marked lower.

Ja'el typed again. "Are there any known sixes who have had unsuccessful careers?"

The answer that came to the screen was telling: "That question has been rated six-or-better-exclusive, and you are unmarked. Permission denied."

For the rest of the week allowed him, Ja'el examined all of the records that were available to him as an unmarked. He found, more and more often, as he began to dig into matters, his unmarked access did not allow him to query the data. Always, it was six-or-better. Why hadn't he faced six-or-better even once in his life before? Was it because he had never considered himself higher than a four that he had never before queried in ways that would deny him access to the most interesting data? It was then that it occurred to him how he would proceed.

He called for Dr. Fant to allow him a visit, and within ten minutes, was at Dr. Fant's office. Rather than speak inside, they walked around an outdoor fountain, talking.

"Dr. Fant, I have been doing a lot of research on this whole matter," Ja'el began.

"I know! I received a list of all your denied-access queries this morning," Dr. Fant laughed. "'Has a six ever murdered anyone?' You have to be a six to know the answer to

that! Welcome to my world,” he added, with a wink.

”There is an awful pile of restricted data,” Ja’el said. ”It’s amazing anyone gets anything done with so many access restrictions.”

”Not really,” Dr. Fant replied. ”The ones, twos, and threes, well, they don’t care to ask such questions. They are worried about ways to find credits to take the family on a five day, for a bit of sunshine. They find ways to use up their mental and other resources on such wishes.”

”What about the fours and fives?” Ja’el asked.

Dr. Fant bent over and pet one of the domesticated ducks. ”You see this duck? Do you know why it’s so colorful?”

”To attract a mate,” Ja’el replied.

”More or less,” Dr. Fant replied. ”The metaphor is this: fours and fives are so busy being successful at being wonderful, that they don’t really have time to question a system that gives them such nice sunny days for free from crowds. They get good mates, they get sunny days, they get nice resources. So they don’t question things. And then we have sixes.”

Ja’el bent over to pet the duck as well.

”Sixes question everything, no matter the consequences,” Dr. Fant continued. ”It’s not enough to get sunny days and resources. Sixes want justice. We question the basic fabric of things. The paradox of being marked a six is that only a six would ever consider how bloody unfair it is to be marked a six in a world so full of everything else. And so, even though the most sensitive information in those databases is restricted, hardly anyone cares to notice - except sixes, but then, they have access to that information, now, don’t they?”

Ja’el laughed. ”And the price of all this is just one friend?”

”Is he worth all of that knowledge to you?” Dr. Fant asked. ”Look how much you’ve learned about our society in just the last week. Imagine if you had the answers to those queries you’ve been asking?”

”I think he is worth it,” Ja’el admitted.

”You see then that you have not faced your worst fear very well,” Dr. Fant laughed.

”Which is?”

”The fear of abandoning your friends for a social order that is so rigid and perfect as the Vitruvian Equation. Your fear that putting a VQ before a true friend would make you a traitor.”

”Is that my worst fear?”

”Yes, it is.”

”Why didn’t my mentor identify it?”

”He’s a four. What do you want from a four? At most, a four way of thinking.”

”So, what will it be?” Dr. Fant finally pressed. ”If you decide to accept a lower VQ, then, in fact, you deserve that mark, in my opinion, because you will have failed to face your worst fear and just move on and be the brilliant star you were meant to be. If you decide to accept your fate and place in the system of things, then you will have faced the fear, and deserve your mark. Either way, you get what you deserve.”

”Are all sixes so frank?”

”Indeed,” Dr. Fant replied. ”Let me know before five o’clock today what it will be, and so it will be. Tomorrow, you are to be marked.”

The time came, and Ja'el was marked. Upon his return home, Ja'el knew that he had one week to vacate his parents' house. He knew that nothing would be the same for him again. His decision, his Marking, had sealed his fate. The world, its options, the way people treated him, who and what he could see, and do, and query about, all were permanently determined. Even the set of people from whom he could find someone to fall in love with and marry, and with whom he could socialize without paying fines was now static. Everything was in perfect measure according to its kind.

Except for Ja'el's soul. And, since Ja'el was a marked six, he would have the freedom to do something about that.

# Une question de temps

N. Lygeros

*Deux amis sont dans un théâtre antique.*

**Rémi** : *En regardant en bas dans le vague.* Cela fait plusieurs jours que je souhaite te parler. *Un temps.* Cependant j'hésite, je ne sais par où commencer.

**Yoan** : L'important c'est de commencer, le reste viendra avec le temps.

**Rémi** : Il s'agit précisément du temps. Je n'arrive pas à le saisir.

**Yoan** : Le temps est l'élément essentiel du monde. Comment l'entendement humain pourrait-il le saisir au cours d'une seule vie?

**Rémi** : *En regardant Yoan.* Tu comprends chacun de nos gestes est immergé dans le temps et ne peut être défini qu'à travers lui grâce au passé et au futur.

**Yoan** : C'est vrai que le temps règle notre vie. Elle n'a de sens qu'en lui.

**Rémi** : *En montrant une direction.* Lorsque nous marchons dans une direction nous percevons notre mouvement grâce aux autres directions.

**Yoan** : A présent, je vois où tu veux en venir. Le temps est unique! Ainsi tout bouge avec lui. Tout se meut...

**Rémi** : Alors justement comment faire pour percevoir le temps si tout le monde évolue sans cesse.

**Yoan** : Comment percevoir que nous vieillissons à travers le temps ?

**Rémi** : *En baissant à nouveau la tête.* C'est cela qui me préoccupe depuis plusieurs jours et je voulais en parler à un ami.

**Yoan** : Pourquoi à un ami? Tout interlocuteur intelligent conviendrait à cette tâche.

**Rémi** : Et pourtant seul un ami est capable de voir le temps s'écouler dans le regard de l'autre.

**Yoan** : Tu le penses vraiment?

**Rémi** : *En le regardant.* Oui car l'amitié devient plus forte avec le temps et cette relation enrichit les hommes.

**Yoan** : Tu as sans doute raison. *Un temps.* Mais ne représente-t-elle pas du même coup un risque?

**Rémi** : *Surpris*. Comment le pourrait-elle?

**Yoan** : Par l'attachement !

**Rémi** : Mais la beauté de l'amitié provient de cet attachement. Même si cela représente un risque, l'amitié en vaut la peine.

**Yoan** : Comment désirer un sentiment voué à l'échec ?

**Rémi** : Comme on désire vivre. *Silence*. La vie mérite d'être vécue car elle est inutile. Le propre de l'homme n'est-il pas de vivre l'inutile ?

**Yoan** : Quelle étrange définition !

**Rémi** : Et pourtant c'est la seule. Car l'apparente inutilité donne un sens à sa vie.

**Yoan** : Ainsi dans un monde absurde, seul l'inutile a un sens. *Un temps*. Et quel est le sens de l'absurde ?

**Rémi** : C'est celui que lui donne la compréhension humaine du monde. Le monde, tel qu'il est, est absurde. Seulement, seul l'homme en a conscience.

**Yoan** : C'est pour cela que la conscience fait tant souffrir... *Silence*. Cependant c'est une nécessité pour l'homme.

**Rémi** : Et il en est de même pour l'amitié.

**Yoan** : Seulement nous avons le choix pour l'amitié, pas pour la conscience.

**Rémi** : Cela n'est pas évident... *Un temps*. Car l'amitié a, elle aussi, parfois un caractère inéluctable. Comme si certains êtres avaient été créés pour être des amis.

**Yoan** : Et pourtant ce choix demeure.

**Rémi** : Alors c'est justement dans ce choix que l'on retrouve la notion de danger et celle de beauté.

# Hiérarchie Hyperbolique de l'Intelligence Extrême

N. Lygeros

L'aspect protéiforme de l'intelligence n'étant visible qu'à partir de la notion de génie, la mesure de l'intelligence s'est contenté d'être linéaire. Cette vision de l'intelligence a incité à penser que celle-ci avait un caractère unique, engendrant du même coup un paradoxe puisque par ailleurs l'observation montre qu'il existe plusieurs intelligences. Pour résoudre ce paradoxe, nous allons adopter une autre approche théorique basée sur la notion d'intelligence extrême. Cette dernière comme le montre l'étude des génies est clairement protéiforme et s'oppose en cela à celle du surdoué. Ainsi à un certain niveau de l'intelligence, nous avons une multiplicité de formes simples et à un autre une unicité protéiforme complexe. Il est pourtant possible d'avoir une vision unifiée de ces différences.

Puisque l'intelligence extrême est protéiforme, elle montre de facto la multiplicité de l'unité. Elle représente donc une unification des intelligences qui semblent différentes à un autre niveau ; à l'instar des forces en physique qui s'unifient lorsque l'on augmente l'énergie. Nous pouvons donc visualiser la structure de l'intelligence comme une variété qui contient des chemins de mesures homotopiques et qui comporte une singularité unificatrice lorsque les mesures atteignent l'intelligence extrême. Il est alors possible d'interpréter cet aspect comme la réalisation individuelle de la notion d'interdisciplinarité.

Pour compléter cette approche, nous pouvons équiper la structure d'une hiérarchie hyperbolique basée non plus sur un ensemble d'items mais sur un groupe de multitems dont la résolution nécessite l'utilisation effective de l'aspect protéiforme de l'intelligence. De cette manière nous pourrions établir des tests de superpuissance capables de mesurer cet aspect radicalement différent de la simple intelligence.

# De l'interdisciplinarité à l'holisme

N. Lygeros

L'interdisciplinarité est une condition nécessaire à l'approche holistique. Tout d'abord en raison du fait qu'elle nécessite la connaissance de plusieurs disciplines, ensuite par la transgression des frontières de domaines qu'elle représente et enfin par la conscience d'étudier par ses différentes projections un objet unique. L'interdisciplinarité induit donc la réalisation d'un modèle mental holistique qui doit être compris comme tel.

L'approche holistique, quant à elle, devient indispensable lorsque l'objet observé est indécomposable en parties qui appartiennent à des domaines spécifiques de la connaissance. Car la science, en mettant en évidence les limites des modèles unidisciplinaires, même lorsqu'ils sont poussés à leur efficacité maximale, fait surgir via complexité, des entités ontologiquement multiples. Ainsi ce que l'interdisciplinarité commence à discerner à travers l'exploitation des disciplines qu'elles considère et qui apparaît comme une émergence superstructurelle, ne pourra être réellement compris que par l'approche holistique intrinsèque.

Un autre point fondamental de cette approche est la notion de transversalité structurelle. En effet cette dernière, qui ne peut avoir de sens dans un cadre unidisciplinaire acquiert toute sa puissance via l'interdisciplinarité. Elle permet alors l'établissement d'un raisonnement analogique qui peut être incomplet dans chacune des disciplines considérées - lorsqu'il existe - et dont la complétude superstructurelle engendre un modèle mental cognitivement incomparable.

Mais sans doute le point le plus important est que cette approche est possible même dans le cas où les structures de base sont cognitivement élémentaires. Plus précisément si l'on transpose les idées de Nash sur les systèmes sans coopération à notre approche holistique, il est possible alors de surinterpréter le mécanisme des algorithmes évolutionnistes puisque dans ce cas précis, l'élément de base n'a pour ainsi dire aucune connaissance, si ce n'est sa fonction d'évaluation qui est d'ailleurs la même pour tout élément : il s'agit donc bien d'un système sans coopération. Cependant l'ensemble de la population avec la notion de fitness représente une structure holistique à laquelle il est permis de résoudre un problème complexe, inaccessible à la structure de base.

Le cadre dans lequel l'interdisciplinarité développe toute sa puissance est celui de l'intelligence extrême. Cette puissance ne provient pas seulement du caractère extrême de l'intelligence qui l'exploite mais de la nature même de cette intelligence. En effet l'intelligence extrême est naturellement interdisciplinaire par nécessité structurelle car elle a besoin en plus de sa fluidité d'une cristallisation multiple et complexe afin d'acquérir des processus de découverte. Ainsi la combinaison de l'interdisciplinarité et de l'intelligence extrême est inventive par essence. Cette inventivité conduit à la création de modèles de compréhension structurellement différents de tout modèle normal. Car il ne s'agit pas d'une amélioration de modèles préexistants mais d'une autre conception, d'une autre vision fondamentalement différente du monde.

Cet ensemble structurel correspond à la nature intrinsèque de la singularité. Seulement si nous la considérons elle-même au sens d'un groupe de brainstorming alors il est possible de concevoir une métastructure engendrée par la synergie de singularités. Cette fois, c'est

le groupe lui-même qui est doté de la combinaison de l'interdisciplinarité et de l'intelligence extrême, et sa puissance mentale s'en trouve multipliée. Car les membres structurés en groupe de réflexion sont plus puissants que lorsqu'ils sont isolés. Cependant cette synergie n'est pas encore réellement exploitée car ce n'est que relativement récemment qu'un contact massif de singularités a été possible. Malgré tout, sans pour autant pouvoir être précis en ce qui concerne l'ordre de grandeur de la puissance d'un tel groupe, il est clair que potentiellement il représente une structure de réflexion puissante capable de créer ce qui ne l'a jamais été. Aussi, une fois le processus lancé, son impact sera irréversible pour la superstructure que représente l'humanité.