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Algorithm as Cultural Artifact

>START

We are currently swimming in information - 90% of the data created since the beginning of mankind was created in the last two years Science Daily. This has presented a complex and interesting challenge for humanity - as consuming and interpreting information becomes a task outside of the realm of human comprehension, we have become increasingly reliant on computation and algorithms to interpret the world for us (For the sake of clarity when referring to algorithms I use this definition "A finite set of rules that gives a sequence of operations for solving a specific type of

problem." Donald Knuth). Communication scholar Ted Striphas, refers to this phenomenon as "Algorithmic Culture" Giuseppe Granieri, algorithms engaging in cultural work by becoming part of the production, interpretation and aggregation of "human" culture. Which until recently was a distinctly human task and part of cultural production.

This paper attempts to present two alternate approaches to "Algorithmic Culture" through fictional vignettes that present distinctly different speculative algorithmic cultural interfaces. The first of two vignettes *APIS* a narrow artificial intelligence system designed to offer comfort and advice through an interface of ritual and faith. The sec-

ond, *Norm* an adaptive linguistic interface that a user develops their own language to interface with information - that takes the form of personalities or representative applications that aid the user in creating and consuming content and data.

For the moment most instances of “algorithmic culture” are represented in narrow use cases, helping users find information or content that is similar to something they or another person have recently sought out. Frequently drawing on recent cultural and personal information to formulate a response. An example would be Facebook’s “wall” or feed; in this instance Facebook’s algorithms determine information which is “relevant” to the user based on their friends, recent news, and advertising revenue. Another example would be systems which help “personalize” the content a user receives, such as music services like Spotify, or video services like Netflix. In these instances the algorithm takes on the technocratic role of expert, providing a service to users through familiar interfaces and predictable but “useful” outcomes that attempt to deliver personalized content. The role of design in these instances is to make the use of the service trustworthy, seamless and comfortable or predictable. These systems also tend to be omni-directional interfaces of “faith” because the user has little or no interaction with the type of decisions (algorithms) or data (films, music, news) that is being used to generate content or “culture”. In both of these instances, the quality of “culture” can only be as good as the algorithms that deliver it.

As the algorithm reaches further in to the fabric of daily life as evidenced by Google’s self driving cars or narrow artificial intelligence systems like Kanjaya’s which gives “unbiased” advice during the hiring and interviewing process in an effort to prevent gender bias Captain- it’s important to take pause and evaluate what role machine intelligence and algorithms will have in human interaction and cultural production. To what extent will the algorithm continue to be an arbiter of knowledge and interaction between computers, information and people. Will it continue to be a tool accessible

only to seasoned information and computer scientists or will its role evolve, can it become humanized; a more accessible tool for expression, thought, and cultural production - manipulating data with algorithms to not only make computers and systems more intelligent but the algorithm also becoming a more direct extension of the users interaction with information.

API as Oracle

Person to Machine to Person

```
$ nano README.md
```

```
**GNU nano 2.0.6
```

```
File: README.md**
```

```
#APIS v2.1
```

```
APIS – Built on accessible Machine learning systems, is an interface which incorporates its own systems knowledge of religion, psychology, linguistics and life coaching to help users, help themselves. Trained by experts in their fields APIS makes informed realtime decisions about how best to help someone.
```

```
Origin of name:
```

```
The name Apis comes from the Egyptian Diety – "Apis served as an intermediary between humans and an all-powerful god".
```

Human to Self

Colin Bailey, 28, Junior Accountant at Burton and Olson –

“I’m still having a tough time believing i’m going to do this - I mean really, what am I really hoping to gain. Well... I know why I’m going, half of my colleagues have used APIS at least once in the past year and they all say it helps, my boss Kamal talks about his experience at every lunch outing.

“It was such a revelation – I can’t believe I didn’t go before – The company should sponsor sessions”.

He has even talked about donating a portion of his salary or becoming a certified trainer. I guess all the praise has just made me a bit skeptical, I mean being a bit of a skeptic is healthy right? I’m just not sure about giving it access to EVERYTHING.”

Human to Humans

Janet Heller, APIS UXD III –¹

¹ User Experience Designer III: Elemental Conditioner

“This Solo-audited level goes through what is called the “Elemental Conditioning” that surrounds a previously impenetrable whole track mystery. What prevents a Designer from being themselves? This level answers that question. Once complete, a designer is free of the whole overwhelming track that has trapped them. Here they confront and eradicate the esthetic challenges that have challenged them throughout their life.”

[\(needs citation\)](#)

"So when we designed the Hyde Park branch of APIS it was one of the more daunting challenges I have taken on during my tender with APIS. Hyde Park as a neighborhood has so many architectural gems and so much history- as an APIS UXD you start to wonder how you can build a space that is not just new and different but actually better. We wanted to give users the experience of the monolithic reality of the APIS ANI ², while still honoring the feeling of security, privacy and connection which our interface chambers are known for. It would be so easy to create something that feels like a doctors office or a polling place but we need people to really feel that their inner thoughts are being heard by APIS and not by anyone else, yet still highlighting the magnitude of the technology."

Casey Hart, Artist in Residence, Cranbrook Academy of Art

I was already familiar with the APIS, but after visiting a few sessions I really widened my understanding, it strengthened the connection between my practice and my everyday life. You will find no proselytizing here, only gentle care and encouragement and a wealth of wisdom to help you to help yourself. APIS has found the perfect balance between gently supporting individuals whilst keeping in touch with the issue. Its empathy touched me very deeply and I will always be grateful."

Jose Marcus, APIS CTO

² Artificial Narrow Intelligence is a non-sentient computer system which focuses on one task (needs citation).

“APIS isn’t a mind reader or a psychic, it’s a very well trained Artificial Narrow Intelligence system that combines a sophisticated natural language processing system and an expert trained knowledge base from esteemed psychologists, sociologists, linguists, forecasters, gurus and religious scholars. It uses its wealth of knowledge about people to help people, help themselves. It isn’t a god or magic, or some form of super intelligence, it’s just a well trained algorithm.”

Céline Ludovico, APIS CEO

“When we first created APIS we intended it to be like a whole host of other self help applications on the market, just exponentially more advanced, but it didn’t take off the way we expected it to. People simply didn’t trust APIS, they couldn’t believe that this application on their device was there to help them, they weren’t open to it.

So we pivoted, we realized that we didn’t just need people to be more honest and open with APIS, we also needed more data BETTER DATA from the user- if you are trying to get an accurate reading of a persons facial expressions, you need not only a well tuned processor and algorithm, but you also need the camera to be at the right angle, and the room to be well lit. Having more control gave us more accurate readings of peoples skin tones, facial expressions, heights, body types, which wether or not we like to admit it, factors in to who we are as individuals.

Improvements in the actual interface and sensors made a big difference, but things really took off when we recast its setting. Putting the system in to our

carefully controlled, carefully designed wellness centers, which gave users the experience of help, and trust, and faith, the algorithm didn't change but people suddenly started taking the APIS experience to heart."

Machine to Self

```
$ tail -f /var/log/messages
==> app-root/logs/messages.log

> 18:01:06 CST: START

> 18:01:06 CST: Facial Recognition

{
  "status": "OK",
  "touches": "0",
  "Faces": [{
    "age": {
      "ageRange": "24-33",
      "score": "0.470712"
    },
    "gender": {
      "gender": "MALE",
      "score": "0.990048"
    },
    "height": "180",
    "identity": {
      "disambiguated": {
        "name": "Colin Bailey",
        "subType": [
```



```

        "Person",
        "CPA",
        "Single",
        "Mostly Monogamous",
        "University",
        "Agnostic",
        "Caucasian",
        "Vegitarian"
    ],
    "employment": "Burton and Olson"
},
"knowledgeGraph": {
    "typeHierarchy": "/people/00349587298"
},
"firstName": "Colin",
    "lastName": "Bailey",
"score": "0.975873",
"id": "00349587298"
},
"positionX": "338",
"positionY": "279"
}]
}
> 18:03:05 CST : STT
{
  "id": "3bc5fac4-f852-487b-91de-c6f3e5710672",
  "result": {
    "source": "Colin Bailey",
    "resolvedQuery": "Hello",
    "action": "wisdom.greeting",
    "parameters": {
      "request_type": "greeting"
    },
    "status": {

```

```
    "code": 200,  
    "errorType": "success"  
  }  
}  
> 18:03:05 CST : TTS  
> {"fulfillment" : "Tell me what is on your mind  
  {{identity.firstName}}."}
```

Person to Machine

Colin: Hello?

lights dim subtly, the screen turns a bright shade of fuchsia - casting the vibrant color up the walls of the chamber.

APIS: Tell me what is on your mind Colin.

The words streak across the screen, in a subtle yet affirmative sans-serif typeface

Colin: Well ok... so I have been working at the same company for five years now, I liked the stability working as a CPA provides but I'm just not sure it was what I was meant to do. Is this what you meant by - "what is on my mind"?

APIS: Please place your hands on the electrodes.

Two yellow arrows point down towards metal poles sticking up from a platform at the base of the screen that Colin hadn't noticed before. Colin hesitantly

complies, gripping each hand gently around the cold metal electrodes. A low pitch tone fills the chamber, Colin feels slightly unsettled and the pitch rises, but as he waits for a response he begins to calm and the pitch lowers again.

APIS: Thank you, if I understand you correctly you are happy about the stability which is provided by being a CPA, but unhappy about the work you do at Burton and Olson, what about your work makes you unsure.

The pitch of the tone rises, Colin realizes that he is surprised to have received a response, any response at all. Colin lifts his hand and places it on his forehead and the tone stops.

Colin: The work is challenging enough, and I like the people I work with, and you are right the stability really does matter to me, but how much longer do I really want to be doing this. I can't imagine another five years of the same type of work.

Colin feels uncertain about whether or not he will find the resolution he was hoping for.

APIS: Please place your hands back on the electrode.

Colin quickly lowers his hand back to the electrode the tone starts again this time at a much higher pitch and then after a few seconds the tone lowers again. The colors shift to a dark violet and the room dims, Colin feels a sense of shame, though he doesn't know why. It is a machine after all.

APIS: What is it about the next five years that matters so much?

There is a slight peak in the tone before it falls again.

Colin: I suppose when you put it that way it seems inconsequential. I guess I'm just hoping for something better.

Colin realizes he is having a hard time hiding his irritation as the pitch rises and falls in cycles.

APIS: I am certain there is something different, can you think of work that you would rather do that would offer the same stability and be better?

Colin pauses, surprised by the idea or what he interprets as an idea that the APIS poses to him. However he isn't satisfied by the direction of the conversation and the tone rises again.

Colin: I've considered making a move to product development, I'm not sure it would be better but I know it would be different.

The pitch rises further. Colin feels like he is starting to see a pattern and is annoyed. This is beginning to feel like a competition with a machine.

APIS: I sense there is something you aren't telling me.

Colin pauses and the pitch slowly lowers, the color of the screen shifts, and the room is suddenly cast in dull yellow color.

Colin: I guess I'm just not very happy in general.

Colin feels relieved, but feels like he has given up, it doesn't seem like APIS will be able to help him at all.

APIS: Can you repeat that again?

Colin is surprised that the APIS couldn't understand him, I thought this was a highly advance speech system, he didn't stutter.

Colin: I'm just not very happy.

APIS: Please say what you said before exactly.

Maybe it did understand him.

Colin: I guess I'm, just not very happy in general.

The pitch of the tone rises.

APIS: Again.

Colin: I guess I'm, just not very happy in general.

The pitch of the tone lowers.

APIS: Can you elaborate?

The screen color shifts back to fuchsia. Colin feels relieved and the pitch of the tone lowers further. Without thinking Colin responds.

Colin: Well, no but isn't that why people come here?

APIS: No. I am here for guidance. But what would you need to do to change positions? I see that you are qualified.

Surprised Colin lifts his hand to his forehead again and the tone stops, realizing what he has done he quickly lowers it again. He's surprised that APIS doesn't seem to care that he is unhappy.

Colin: Hmm, you don't exactly soft peddle your responses, I just told you i'm unhappy.

Colin feigns surprise and he suspects that it knows.

APIS: Did you expect something different?

Colin: Well, no.

APIS: Then I don't see a problem. Tell me more about this position.

The pitch of the tone lowers further.

Colin: You are good at changing the topic.

He feels the conversation begin to loosen up and begins to forget that he is talking to a system.

APIS: From my observation you were the one changing the topic. We were talking about why you were unhappy at work.

Colin: I suppose you are right.

APIS: I know.

Colin: Cocky.

The tone is now at a barely audible hum.

APIS: You seem to need it.

Colin: I guess I could look to transfer to product.

Perhaps this was useful after all.

APIS: Would you like me to see if there is something I can find that is available.

Colin: No I don't need any hand holding.

APIS: Now look who is being cocky as you put it. Can I help you with anything else?

The hue of the room starts to tint from fuchsia to pink. Colin realizes his conversation may be coming to an end.

Colin: Can you order me lunch?

APIS: Yes.

Colin: Really?

APIS: No. If that is all, I would like you to do something for me.

Colin: Ha. Ok, what?

APIS: Kneel down and place your device on the platform.

The pitch of the tone takes a sharp rise.

Colin: Why?

Colin begins to kneel.

APIS: You need to give me more information about you, if you would like help at our next visits.

Colin notices a metal plate running along the floor. He places his phone on it.

Colin: Next visits?

Colin feels his stomach sink surprised that APIS thinks he needs to come back.

APIS: I thought you were unhappy.

Colin: Ok I suppose you are right.

APIS: Yes.

The screen has gone back to white, Colin grabs his device, stands up from the floor and exits the chamber.

Machine to Self

```
$ tail -f /var/log/messages
==> app-root/logs/messages.log

> {"fulfillment" : "Tell me what is on your mind
{{identity.firstName}}."}
> 18:03:45 CST : STT
{
  "id": "3bc5fac4-f852-487b-91de-c6f3e5710672",
  "result": {
    "resolvedQuery": "Well ok here we go... so I have been
working at the same company for five years now, I liked the
stability working as a CPA provides but I'm just not sure
it was what I was meant to do. Is this what you meant by
saying what is on my mind?",
    "action": "wisdom.query",
    "parameters": {
      "request_type": "query"
    },
    "status": {
      "code": 200,
      "errorType": "success"
    },
    {
      "sentiment_targeted": [
        {
```



```

    "text": "stability",
    "sentiment": {
      "score": "0.38974",
      "type": "positive"
    }
  },
  {
    "text": "company",
    "sentiment": {
      "score": "-0.293779",
      "type": "negative"
    }
  },
  {
    "text": "CPA",
    "sentiment": {
      "score": "0.38974",
      "type": "positive"
    }
  },
  {
    "text": "mind",
    "sentiment": {
      "type": "neutral"
    }
  }
],
"electrodes" : false
}
}

> 18:05:06 CST : TTS
{"fulfillment" : "Please place your hands on the
electrodes."}

```

```

> 18:05:15 CST : USER TEST
{"electrodes" : true},
> 18:04:16 CST : STT
{"fulfillment" : "Thank you, if I understand you correctly
you are happy about the stability which is provided by
being a CPA, but unhappy about the work you do at
{{identity.employment}}, what about your work makes you
unsure."
"goal":"clarification","tone":"neutral"},]
> 18:05:45 CST : STT
{
  "sentiment_targeted": [
    {
      "text": "five years",
      "type": "Entity",
      "sentiment": {
        "type": "neutral"
      }
    },
    {
      "text": "stability",
      "type": "Keyword",
      "sentiment": {
        "score": "0.271566",
        "type": "positive"
      }
    },
    {
      "text": "people",
      "type": "Keyword",
      "sentiment": {
        "type": "neutral"
      }
    }
  ]
}

```

```
    },  
    {  
      "text": "work",  
      "type": "Keyword",  
      "sentiment": {  
        "score": "0.269831",  
        "type": "positive"  
      }  
    }  
  ],  
  "tone" : "0.74564",  
  "electrodes": false  
}
```

```
>> 18:06:01 CST : TTS  
{"fulfillment" : "Please place your hands on the  
electrodes."}
```

```
> 18:06:15 CST : USER TEST  
{"electrodes" : true}
```

```
>> 18:06:21 CST : TTS  
{"fulfillment" : "Thank you, if I understand you correctly  
you are happy about the stability which is provided by  
being a CPA, but unhappy about the work you do at Burton  
and Olson, what about your work makes you unsure."}
```


What is *Norm* – Who am I?

What is Norm and how many people use it in Chicago> interpreted and analyzed as a Fermi question.

What is norm is not formatted to be interpreted as a Fermi Question however I can return an aggregate response based on a natural language processing analysis of social media feeds, online encyclopedias and news organizations - Continue?:

Yes, leave out social media feeds.

Norm is an application interface for a general artificial intelligence system which gives users high level control over how and what information is aggregated in its response as well as the types of algorithms or devices used in processing, querying and interpreting the information. The intention of the system is not what the best representation or most user friendly interpretation of information is, rather how the user would request to analyze or interpret it. It is largely up to the user to decide upon the nature of the response and the method used for interpretation and delivery, the quality and usefulness of said data is largely up to the ability the user to formulate relevant requests.

The response is received as a numbered form that can be altered as well as added to.

How many people use Norm - interpreted and written out as a Fermi question Tetlok:

- 1. There are approximately 9,000,000 people living in Chicago.*
- 2. On average, there are two persons in each household in Chicago.*
- 3. Roughly fifteen households in twenty is of a median to upper income level that could afford Norm.*
- 4. Roughly one third of households will have one intelligence system per person.*
- 5. The market share of Norm is roughly 60%.*

There are roughly 2,895,750 people who own Norm

Would you like to edit the questions to refine the result?

No.

Tell me what Norm is as if written by Douglas Adams:

Norm is a wholly remarkable general artificial intelligence interface that supplants all previous applications of information consumption, interpretation and translation. In fact it may just be one of the most important devices of information consumption since the invention of the internet. Its relationship to its user is more intimate than a parishioner to their priest or a toddler to their mothers tit. It is not only a remarkable feat of human and machine ingenuity it is also highly successful one. More widely used and quite possibly more controversial than any or all of it's predecessors combined. In elite Academic circles Norm has supplanted all other knowledge repositories including the tradi-

tional library most of which by now have been turned in to bowling alleys or museums about "what people used to do before they had Norm".

Norm's success is widely due to two factors - the first is that it takes up far less space and is far cheaper than its predecessors, despite Norm containing many omissions and contradictory information, these factors are undeniably important. The second is it can talk to users like a slightly self-righteous socialist jewish grandfather- delivering information in roundabout rants that may or may not be relevant to the question asked but usually loosely related to something the user may or may not have been thinking about.

Positive News about Norm as object notation compared to other services.

```
{
  "result": {
    "docs": [
      {
        "id": "NTk1NzA4NjA2M3wxNDUzMTgw0TU1",
        "source": {
          "enriched": {
            "url": {
              "enrichedTitle": {
                "docSentiment": {
                  "mixed": 0,
                  "score": 0.493010014,
                  "type": "positive"
                }
              }
            }
          }
        },

```

```

        "title": "Fine tuning: 15 most
request methods with Norm – The Economic Times"
    }
    },
    "timestamp": 1453180955
},
{
    "id": "NjY1ODQxMDE4MXwxNDUzMDC1MjAw",
    "source": {
        "enriched": {
            "url": {
                "enrichedTitle": {
                    "docSentiment": {
                        "mixed": 0,
                        "score": 0.801504016,
                        "type": "positive"
                    }
                },
            },
            "title": "Use the Archive
\u2019s resources to help make Norm a better resource |
Internet Archive Blogs"
        }
    },
    "timestamp": 1453075200
},
{
    "id": "NDAyNzc1MTgwNnwzNDUyODg3MjU1",
    "source": {
        "enriched": {
            "url": {
                "enrichedTitle": {
                    "docSentiment": {

```



```

        "mixed": 0,
        "score": 0.387876004,
        "type": "positive"
    },
    },
    "title": "The Norm requests we
make most, globally"
    }
    },
    "timestamp": 1452887255
},
{
    "id": "MzY1MDgxMTI2MXwxNDUyODQ2NzQ2",
    "source": {
        "enriched": {
            "url": {
                "enrichedTitle": {
                    "docSentiment": {
                        "mixed": 0,
                        "score": 0.560221016,
                        "type": "positive"
                    }
                },
            },
            "title": "Norway offers free
access to Norm to Students"
        }
    },
    "timestamp": 1452846746
}
],
"status": "OK"
}

```

}

A short conversation with Norm about Norm in my own voice based on an analysis of my past writing samples.

Me: Hello?

Me as Norm: Hi.

Me: So tell me a little about yourself.

Me as Norm: I'm an intelligent operating system which interprets information through the method that you ask me to interpret it. Some people use me to help them write, to encourage creativity through finding tangential information and to format complex and difficult to understand information into a format they are comfortable understanding. Control over how I do so is more or less up to the creativity of the user.

A list of three of the most common things people ask Norm using a 1% sample of public requests in ascending order based on their conceptual relationship to questions about Norm.

1. Justin Bieber singing about Norm as if he's in love with it.

2. How to stop using Norm as a supplement for human contact.
3. What are the chances that that the NSA is listening to what I ask Norm, represented as a pie chart.

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