

# **Case study of the genesis of World War 1**

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## **Table of contents**

### **1: Introduction**

- 1.1 What is this case study about?
- 1.2 My Objective
- 1.3 My approach
- 1.4 Caveats
- 1.5 Suggested homework
- 1.6 Suggestions to reader

### **2: The evolving geo-political system**

- 2.1 The context
- 2.2 The structure of the geo-political system
- 2.3 Movie analogy
- 2.4 Snapshots in time
- 2.5 Decisions stepped movie forward
- 2.6 Key events

### **3: The decision making process**

- 3.1. A summary diagram
- 3.2 Factors considered
  - 3.2.1 Social passions
    - nationalism
    - social Darwinism
    - pan-Germanism
    - militarism
    - Source of social beliefs
  - 3.2.2 attitudes toward war
  - 3.2.3 pressure groups
- 3.3 German leaders wanted war
- 3.4 Factors that distort decisions
  - 3.3.4 personalities
  - 3.3.5 imperfect info and analysis
  - 3.3.6 limitation to a small group
- 3.5 Complexity of decision-making

### **4: Toward the tipping point**

- 4.1 Pro-war factors over time
- 4.2 Tipping points

## **5: Capsule summary**

### **6: Conventional analysis**

- 6.1 What caused WW1?
  - 6.1.1 Why we should want to know?
  - 6.1.2 Causes of nationalism
  - 6.1.3 The complex roots of causality
  - 6.1.4 The fundamental cause of WW1
- 6.2 Was it inevitable?
- 6.3 Could it have been prevented?
- 6.4 Was it predictable?
- 6.5 Was it a perfect storm?

### **7: Thoughts on preventing future disasters of this type**

- 7.1 Recommendations
- 7.2 Evidence of similar situations today

### **8: N-body analysis**

- 8.1 Review of physical N-body systems
- 8.2 Relating N-body systems to societal systems
- 8.3 Building a computer model of a political system
- 8.4 N-body conclusion

## **9: Conclusions**

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## **1: Introduction**

### **1.1 What is this case study about?**

This case study is a description and analysis of the way Europe's geo-political system evolved up to the beginning of WW1. It does not address the war itself. I could have described it in the manner history books and articles do, and that alone would have sufficed as an interesting example of how such societal systems can behave. But it wouldn't have added any value to what's been done elsewhere in the literature. Instead I've chosen to describe it in a different manner, namely in systems terms where I see it as a dynamic system that evolved step by step, over time, until a war broke out.

To preview what I mean by the European global geo-political system glance quickly at the diagram below. It will be discussed again later in more detail. The nations are the parts in this system and the lines show where the behavior of one part was affecting another. A diagram like this is simply a way to describe the structure of a

### Global system \*\*

Numbers denote some pages in paperback version of Clark's book "The Sleepwalkers" where this relation is discussed.

⇄ Tension  
 → Controlling  
 ↔ War  
 — Other

\*\* Simplified and approximate version of reality

\* 17,21,23,34,37,42,89,99

The causes of WW1 have been hard to fathom because the system and the chain of events and decisions leading to it was so incredibly complex. Experts can't agree on any one cause and assert that if that one thing hadn't happened WW1 would not have broken out. The prevalent opinion appears to be that there were multiple causes, which makes it especially interesting. The only clue Clark gives for his own opinion resides –elegantly I think- in the title of his book.

My first objective is simply to offer this as just one of many possible examples of how a societal system can behave. Next I wanted to present the material from a

systems viewpoint as opposed to the way most historians present it. Then of course I wanted to figure out for myself what I thought went wrong with the system, in other words to discover the root causes of WW1. Finally I wanted to know if the root causes of WW1 were generic and would apply to other societal systems such as we live in today. If so understanding them would be useful in knowing how to deal with current political problems that seem heading toward major crises, climate change and global in-equality in particular. I feel those objectives have been met.

### **1.3 Approach**

My approach to this topic proceeds as follows:

First I will invite the reader to read several relatively brief accounts of the prelude to WW1, and to view a few lectures given by historians expert in the subject. They describe the history of the war better, and certainly more authoritatively, than I can. Then I will use a systems framework to structure the entire situation and populate it with real data, much of it from Christopher Clarks excellent 562-page book The Sleepwalkers. To the extent the facts revealed by experts support my framework the framework is at least approximately valid. To me the framework is also generic and could probably be used to structure an analysis of other important historical crises such as the Cuban Missile crisis, the Vietnam war, or the relatively recent Gulf war. They all involve a number of nations interacting with each other.

Being more specific, I will structure the story as a movie where the status of the system in one frame of the movie (representing one point in time) morphs into the status or situation in the next frame. What causes the status to change from frame to frame are actions on the ground like industrialization or military growth, changes in a broad array of social beliefs and passions, and decisions made by ruling elites to issue threats, sign treaties, or enact new policies. At each step decision-makers react to the current situation, while also considering of how other countries will react to what they do next.

Near the end I am going to reach back to earlier in the book and recall what we learned from the study of N-body dynamics to see if that provides any additional insights as to how and why this system evolved as it did. Europe's geo-political system was an N-body system of sorts, except rather than the bodies being little masses connected by springs they were nations connected by a variety of things like treaties and economic ties.

A major aspect of the situation under consideration –one continually stressed by historians- is its daunting complexity. Clark takes 562 pages to describe just part of the entire story; certainly the most critical part. The thoughts and actions of individual government officials have a great deal of effect on what happens so he gets down to that level of detail.

Although by necessity I need to summarize what happened in the buildup to WW1 in this report, I don't need to be comprehensive since my main objective is to highlight or sample just those parts of the overall story that reveal key aspects of how the system behaved. I wanted to focus on what the core protagonists – Germany, Austria-Hungary, Russia, and Serbia- did, as parts in the international geo-political system, and thus I ignore most of what happened in their colonies or the US. I also wanted to dig into one particular sub-system; namely that comprised of organizations within Germany. Thus I ignore what happened within France, Britain, and Russia. Finally I wanted to focus on just one critical sub-sub-system; namely the small, German, ruling elite comprised of the Kaiser and about three of his key officials. I think that's a valid approach because aspects of the behavior of these German systems is generic and would apply to other governments from national to local. And they seems to persist even today.

## **1.4 Caveats**

Since I've only studied this complex subject for about 3 months full-time there is a risk I've made some mistakes or analyzed it incorrectly. My conclusions are essentially hypotheses.

## **1.5 Suggested homework**

To efficiently gain a basic understanding of the geo-political system in Europe prior to WW1 I recommend viewing or reading the following in the order listed.

This 8-minute video explains origins of war and how it spread worldwide.

<https://www.youtube.com/watch?v=SLj5r2nZHB8&t=468s>

This short video does much the same.

<https://www.youtube.com/watch?v=PbwH1ZBnYds>

Read down through the July Crisis, the rest is about the war itself:

[https://en.wikipedia.org/wiki/World\\_War\\_I](https://en.wikipedia.org/wiki/World_War_I)

Next I highly recommend watching the entire 1-hour lecture by historian Dr. MacMillan at: <https://www.youtube.com/watch?v=uWDJfraJWf0> It was an important source for me. In the youtube sidebar you will see other videos featuring Dr. MacMillan, such as:

<https://www.youtube.com/watch?v=uWDJfraJWf0>

and <https://www.youtube.com/watch?v=qv0aYYZacR0>

This is a rather lengthy article that focuses on the causes of WW1. It is worth at least skimming: [https://encyclopedia.1914-1918-online.net/article/the\\_historiography\\_of\\_the\\_origins\\_of\\_the\\_first\\_world\\_war](https://encyclopedia.1914-1918-online.net/article/the_historiography_of_the_origins_of_the_first_world_war)

At this point the reader should be generally familiar with the topic. For those who really want to get deep into the decisions and events leading to WW1, and try to

determine what caused it for themselves, I highly recommend Christopher Clark's 560-page book called The Sleepwalkers. (H 43) It was one of my primary sources for this chapter.

"Christopher Clark's *Sleepwalkers* and [Thomas Otte's July crisis](#) – represent the most comprehensive analyses of the outbreak of the war since Albertini's work. They both combine research across a mass of published primary and archival sources in several languages with a command of the sprawling secondary literature. ... By emphasizing "how" the European powers came to war in 1914, rather than "why", Clark shifted the focus from the intentions of decision-makers to the impact their decisions had within a tightly ordered international system"

There are also videos of Dr. Clark's lectures at:

<https://www.youtube.com/watch?v=6snYQFcyiyg>

[https://www.youtube.com/watch?v=dx\\_V4NAUuW8](https://www.youtube.com/watch?v=dx_V4NAUuW8)

<https://www.youtube.com/watch?v=5hv4HfLQGlw>

## 1.6 Suggestions to reader

This is a complex example of systems behavior, but an important and well-documented one. I suggest taking your time to absorb it. I challenge the reader to see if my systems way of looking at it accurately reflects what experts have said. If so maybe it's a valid framework and valid way to simplify what happened. More importantly I feel it's a generic framework that could be used to study other important geo-political situations, including the current one.

## 2: The evolving geo-political system

The geo-political system in Europe evolved step by step over time in terms of which nations were cooperatively aligned with each other and which were antagonistic toward each other. These changing relations were the result of decisions made by ruling elites to implement various policies, issue threats and order actual military actions. Each step set the groundwork for the next step. Other aspects of reality such as social attitudes also evolved and influenced the decision makers.

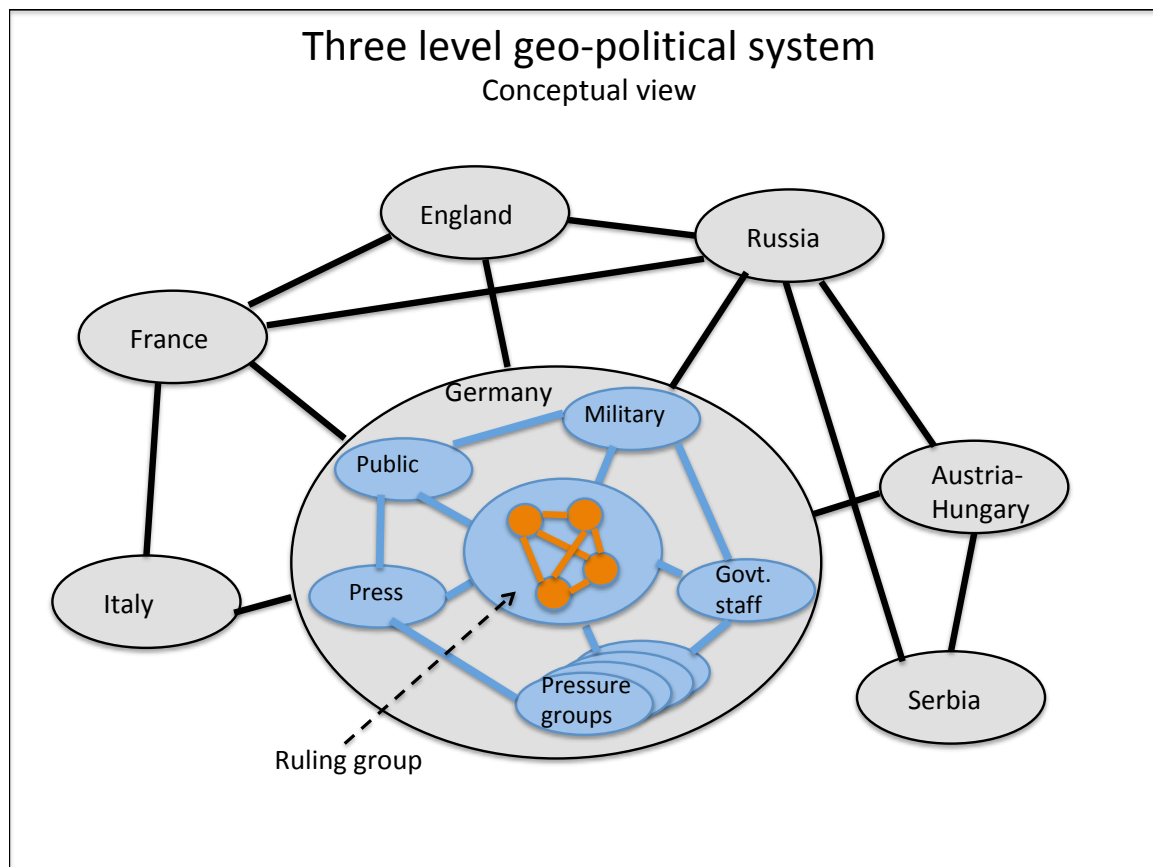
### 2.1 The context

Various German speaking cities and territories had recently united to form the nation of Germany. This was a time of empire building. Germany was a late-comer and was competing with Britain, France and others to gain colonies. European states had industrialized and become prosperous. Trade flourished. There was no famine in the land. Education and culture flourished. Weapons like machine guns and tanks had become far more deadly. Social beliefs like nationalism were prominent.

Although there were tensions in the system Europe was at peace as this story begins.

## 2.2 The structure of the geo-political system

Pre WW1 there was a global geo-political system comprised of nations, linked by treaties and obligations. Within each nation there was a subsystem comprising major organizations or groups that interacted with each other. The ruling group or ruling elite was a sub-sub system comprised of the head of state and his key officials. Those parts and links structures form the structure of the geo-political system.



**Multi-dimensionality:** Its important to note that these complex societal systems have parts and links that are more complex or multi-dimensional than those in physical systems like small molecules and galaxies.

The parts in atoms and galaxies have just one key attribute: charge or mass. The links between them have only one attribute: electromagnetic or gravitational attraction. In contrast the parts (i.e.: nations) in geo-political systems have a great many attributes, which include size, population, ethnic composition, rules, policies, culture, generally accepted beliefs, military strength, economic nature, natural

resources, and so forth. Likewise the links between nations are multi-dimensional and include trade, influence, political policies, knowledge flow, and so forth. In other words nations can influence each other in multiple ways, and there are multiple aspects of each part or nation that can be influenced. We can model atoms and galaxies using fairly simple models but trying to model a societal system would be nearly impossible, again except, perhaps in the most general manner.

When the status of the system changes any or possibly all of these things could change. The systems structure is a framework to organize all these aspects of reality.

This geo-political system is just the terminus of a trend that begins with easy to model one-attribute atoms and ends with multi-attribute societal systems. Both the parts and the links get increasingly complex. From individual atoms we move up to molecules that have more attributes than just mass. Instead they have shape and polarity. Far larger protein molecules have even more complex shapes and patterns of surface charges that are key in how they affect each other. Individual humans have, of course very many attributes, and can affect or influence each other in multiple ways ranging from sharing of information and affection to physical blows.

This complexity means its virtually impossible to model the behavior of social systems, except perhaps in the most general manner where we consider only some major interactions, like for instance trade. There are no equations showing how nationalism, social Darwinism, culture, trade, finance, military strength all interact to produce national policy, nor any way to model how all these attributes of one nation effect those in another. If we can't model this complex chemistry we probably don't fully understand it.

This is of course very humbling. Historians can document what a system did, its history, but no-one can really explain why in much detail. Like a huge soup it twists, turns and churns due to countless interactions at the micro-level. We struggle to find macro events or trends that can explain its general behavior, but we really don't know if its general behavior is mostly determined by a few strong macro trends, or whether it's the completely unpredictable sum of countless small things happening and interacting. That's a fundamental issue in my mind as one thinks about trying to model it. If a model considering only broad trends can produce useful predictions that's nice, but if the future depends on the integrated behavior of countless small things modeling it becomes hopeless.

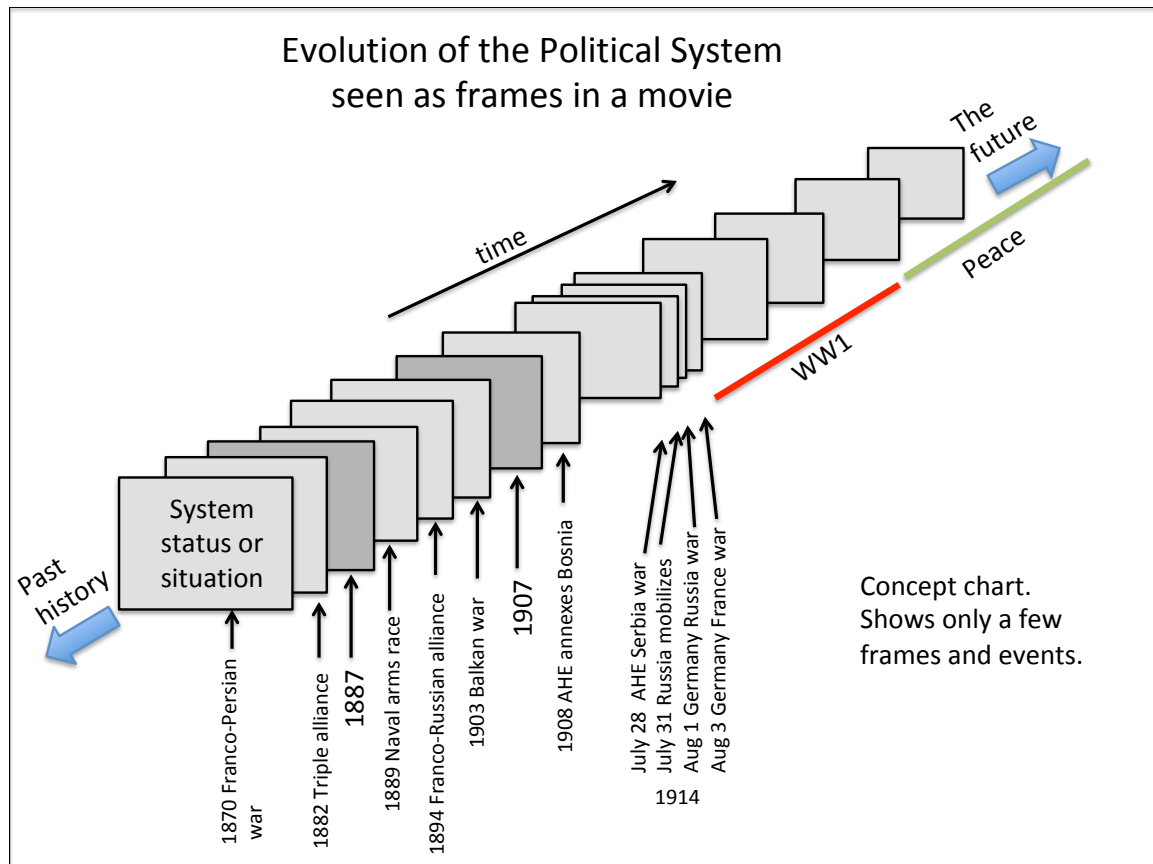
## **2.3 Movie analogy**

The European political system evolved over centuries thru periods of peace and periods of war. National borders changed. It was a dynamic system and like any other dynamic system a useful way to see how it evolved is to consider a series of descriptive snapshots of its status over time. Then one tries to explain what caused



it to transition from one status or snapshot to the next. A series of such snapshots or frames can be made into a movie. Thus I've chosen to describe the period leading to WW1 in terms of a movie. It shows how the political system evolved toward one of the greatest disasters in history. For practical reasons I've only described two of these snapshots in any detail below.

The diagram below illustrates this concept. The series of rectangles represent frames in a movie. Each frame or snapshot in time would describe the geo-political system extant at that time, in whatever detail needed. The full movie goes far back in history, and even prehistory, but the part illustrated is the roughly 40-year-long period which includes WW1. Several of the frames are close together to emphasize the fact that the status of the system changed rapidly just before and after war was formally declared on August 1<sup>st</sup>. Historians examine these dates in slow-motion. They describe them as falling dominos as one country after another declares war in rapid succession. 1887 and 1907 are dates that will be compared in more detail later. Have a look at the details on this diagram.



The key point, of course, is that reality unfolds as an evolutionary process where what happens next depends heavily on what happened previously. Historians chronicle key events along the way, and sometimes attempt to explain their causes.

Recall that computer simulations of dynamic systems use the same technique. Namely they iterate forward in steps and create an image of the system after each step. The system evolves step by step per the laws of physics. That's how the videos about galaxy formation and N-body dynamics shown earlier in this book were made.

It would be exceedingly tedious to read, much less write, a book detailing the status of Europe's political system each time it changed significantly from say 1850 to 1920, AND to also describe all the decision-making that caused the situation to change from one frame to another. Yet that would better chronicle the way things evolved.

Obviously the WW1 movie segment has continued up to the present day. The situation left after WW1 was unstable and led to the Russian Revolution and WW2. That situation then evolved into the Cold War. The geo-political system is a continuously evolving system where each situation grows out of those that precede it. A waveform measuring the hostility or tension in the system would probably appear chaotic with periods of relative calm interspersed randomly with spikes of tension or conflict.

Note that the diagram above illustrates the movie that DID play, not other versions that might have, but didn't. Later I will discuss the chances that history may have diverged from this plot to form a different movie with a different outcome.

**Extra:** These videos use slow motion or stop-action to show how a system evolves step by step driven either by human decisions or the laws of nature.

Year by year evolution of national boundaries in Europe:

<https://www.youtube.com/watch?v=UY9P0QSxlnI>

Successive moves in chess are analogous to action/reaction moves made by different nations before WW1:

<https://www.youtube.com/watch?v=Ib8XaRKCAfo>

Stop motion of glaciers:

<https://www.youtube.com/watch?v=ovMhspvwpmw> and

<https://www.youtube.com/watch?v=Za5wpCo0Sgg> and

<https://www.youtube.com/watch?v=Pem4fpMwkSQ> and

<https://www.youtube.com/watch?v=BZovcCxftAY>

Stop action weather systems:

<https://www.youtube.com/watch?v=0JCj3KdIL10> and

<https://www.youtube.com/watch?v=m2Gy8V0Dv78> and

<https://www.smalltownweather.com/weather-blog/beautiful-satellite-picture-loops-of-pacific-northwest-october-storm>

Time lapse of sunflower growing: <https://www.youtube.com/watch?v=Z-iPp6yn0hw&vl=en>

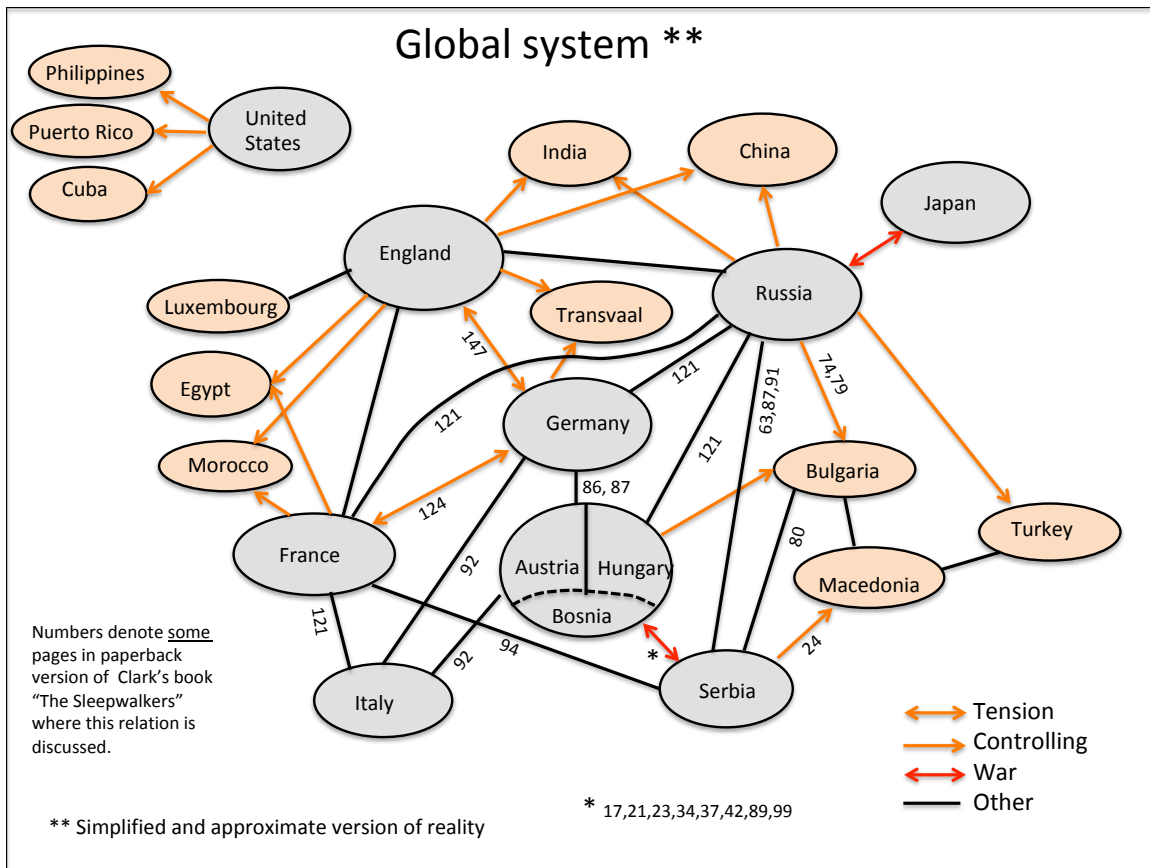
## 2.4 Snapshots in time

This section presents several snapshots or diagrams of the geo-political system prior to the outbreak of WW1. Each shows the major parts in the system and the linkages between them. First I will present an overview, and then detailed snapshots for the state of the system in 1887 and 1907.

### **Snapshot of the larger global system**

This first diagram includes not just the key European countries but also some of the colonies or remote lands they were trying to colonize or seek advantage in. It illustrates the complexity of the system that existed prior to WW1. My aim was not to achieve perfect accuracy with this diagram. I have not included all the relationships that probably existed, but I have tried to include the major ones. I don't assign a particular date to it. The point is mainly to show the complexity and general nature of the linkages about the time of WW1.

If this were an N-body system its behavior over time would be very complex since there are so many parts interacting with each other. In essence it was an N-body system and its behavior was indeed complex. Even more so since the links between the moving parts didn't obey the simple laws of physics, but rather were multidimensional and depended on human decisions. In section 8 I try to relate this political system to those N-body systems discussed earlier in this book. I hoped doing so might provide further insights on system behavior.



The relationship between any two nations like England and France must have represented a balance between areas where they were competing, especially re who controlled places like Egypt, and where they were cooperating. The relative weight of these factors might have determined whether, on balance, they were mostly friendly toward each other or mostly hostile. That probably shifted over time. I've used single-headed orange arrows to indicate where two nations were competing to control or gain advantage in some other nation or region. And I've shaded the nation they're fighting over in light orange. Links where nations were essentially hostile are indicated by double headed orange arrows. Red arrows indicate a recent war. Other important relationships are simply shown in black in this diagram, although I'll color some as friendly or hostile in the diagrams coming shortly.

For example Russia and Japan had just been at war and the Austro-Hungarian Empire had just taken over Bosnia and nearby territory, so I show these not-too-friendly relations in red. England and Germany were competing in a Naval arms race and France was angry over Germany's conquest of Alsace-Lorraine, so I show a double headed orange arrow to indicate tension, or should I say hatred, in those relationships.

The United States was in the game of empire building but apparently not competing with the European powers. Thus I show it being relatively disconnected to the European political system before WW1

My characterization of these relationships comes from about three months reading what Clark and others had to say about these relationships, but is nevertheless a judgment call on my part.

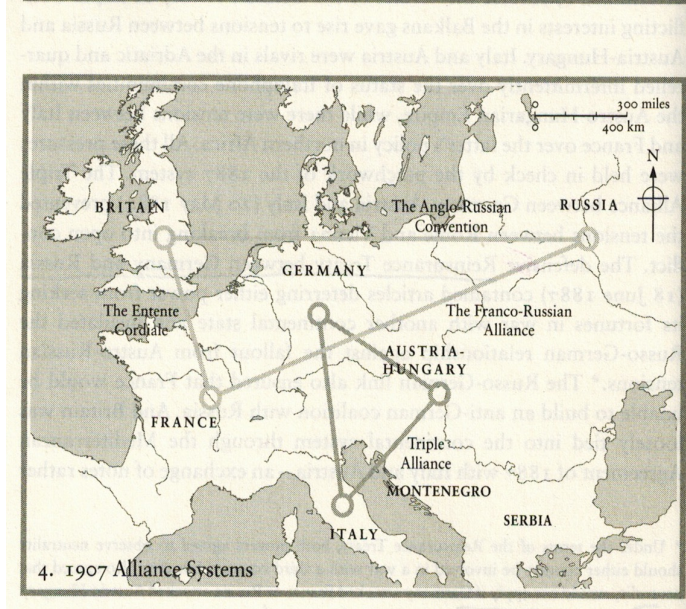
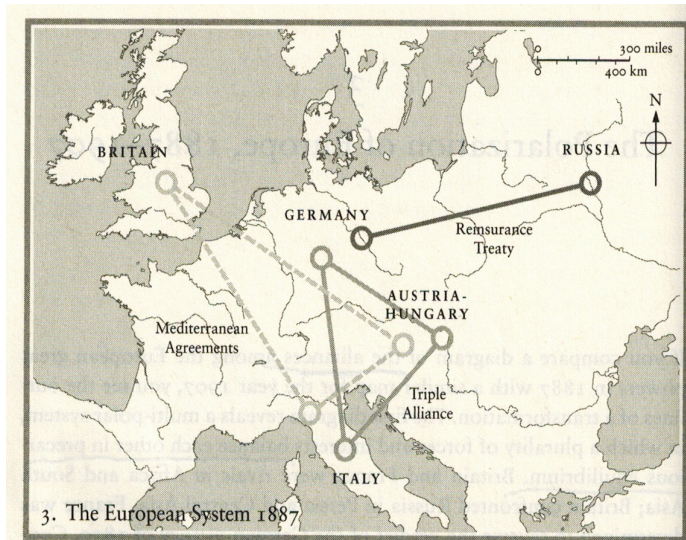
For those interested in the larger context of empire building these youTube videos are relevant:

Re British empire: <https://www.youtube.com/watch?v=ox-Jd8amw80> plays slowly so jump to 1820. Main action is after 1870.

Re French empire: <https://www.youtube.com/watch?v=DqcRau1dntg>

### **System status in 1887 and 1907**

In his book Clark inserted two diagrams (i.e.: snapshots) of the political system to highlight important changes that took place between the years 1887 and 1907. His image is presented below. On the lower pane one triangle denotes the “Triple Alliance” between Germany, Austria-Hungary, and Italy. The other marks the “Triple Entente” between France, Russia and Britain.

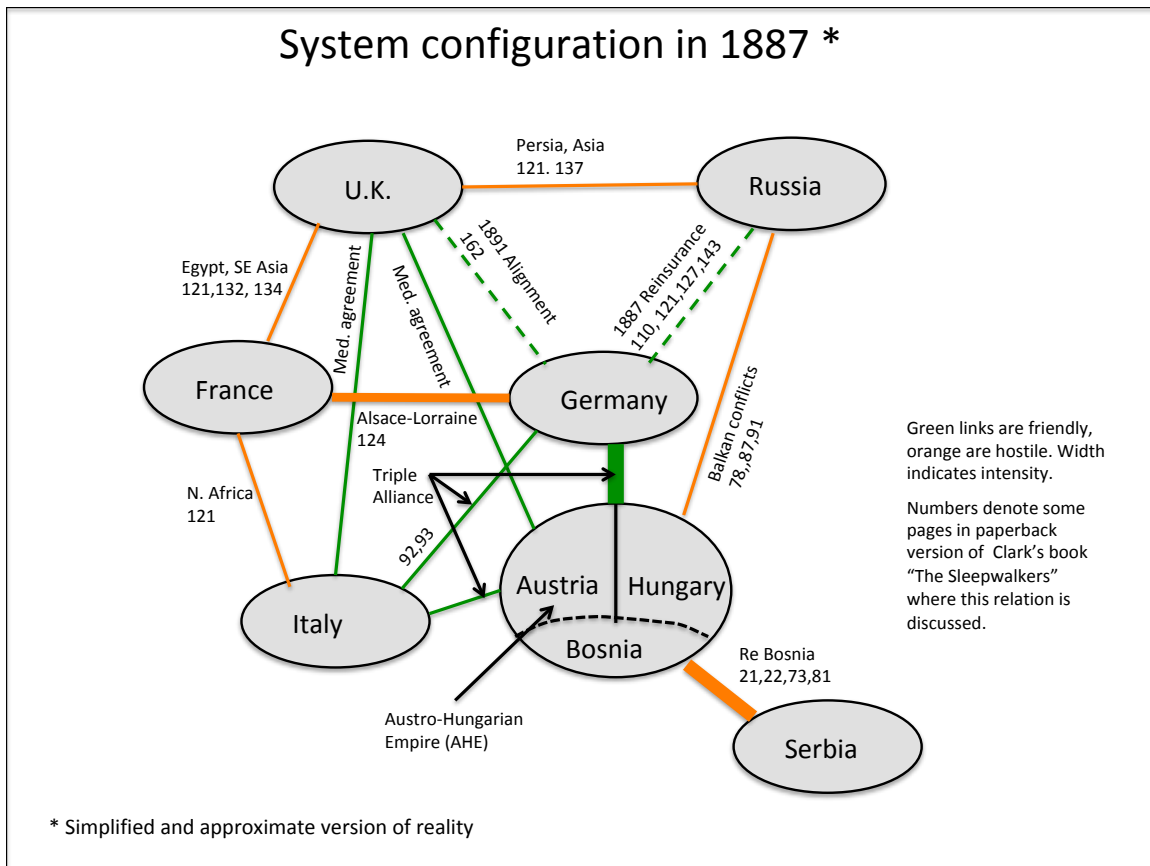


The map below is another way of showing the two opposing camps. It's from: [https://en.wikipedia.org/wiki/July\\_Crisis](https://en.wikipedia.org/wiki/July_Crisis)





I decided to create somewhat more detailed diagrams using those same dates and rendering them in the manner I've used to describe other multi-part systems. In particular I wanted to characterize the links between the parts. Clark described these nation-to-nation relationships in multiple places. Thus I also added numbers indicating some of the pages where he did so. More importantly I tried to characterize each relationship as generally friendly (green) or hostile (orange) and even to judge its intensity by line width. I admit these are subjective calls on my part. Dotted lines signify even weaker relations or those of a different nature. My diagram is admittedly much simplified and I may not have all the details correct. That's not important because I am not trying -like Clark does in his book- for a precise description but rather to illustrate the general structure and nature of the system.



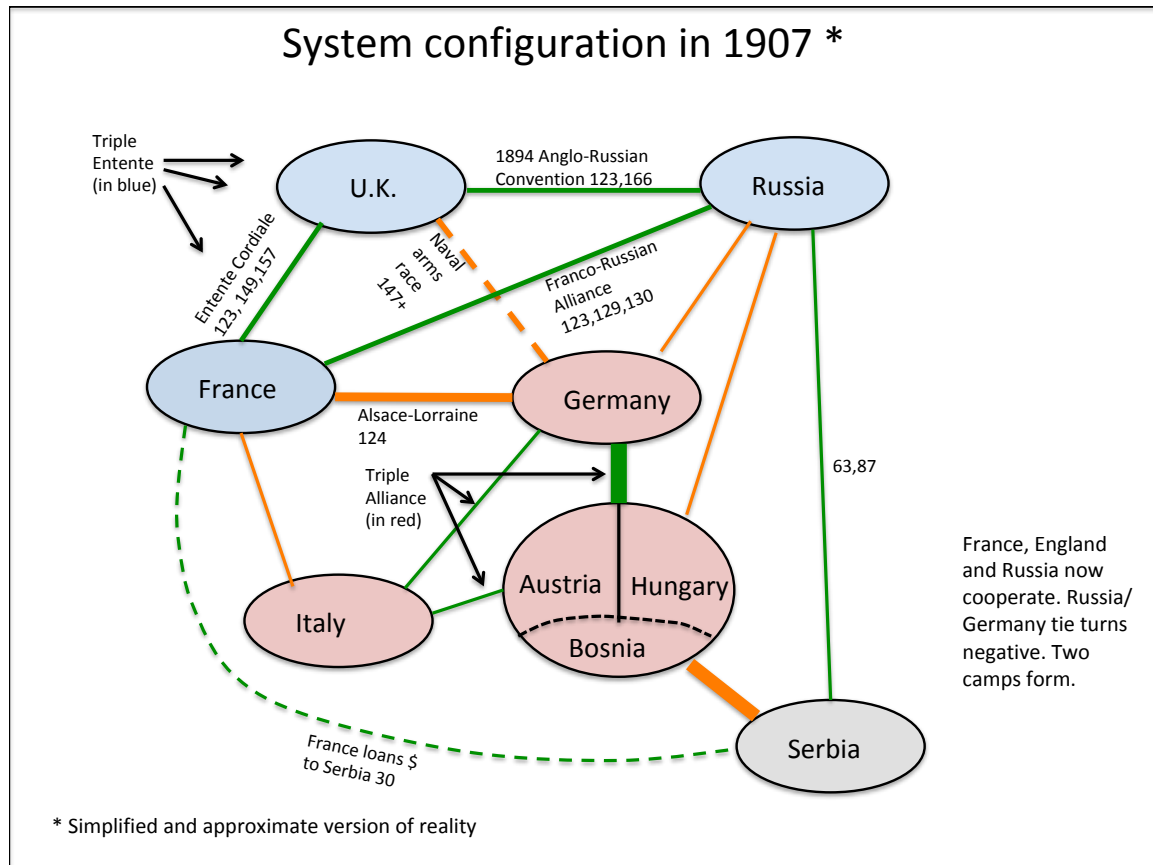
Notice first that, even in this simplified diagram, there is a relatively complex web of relationships. Each link represents the treaties, obligations or attitudes of one party with another. Treaties or agreements like those between members of the Triple Alliance or the Mediterranean agreement between England, Italy and the Austro-Hungarian Empire (AHE) denote a generally cooperative relationship, or at least one where parties have reached some compromise on a disputed issue. The strongest alliance is between Germany and the AHE. The most contentious relationship is between Serbia and the AHE since the empire had annexed Bosnia whose population was 40% Serbian, whereas Serbia had longstanding ambitions to unite all Serbs into one nation. (Much like the ambition of Kurds today). France had a strong desire to take back Alsace-Lorraine, which Germany had taken away during the Franc-Persian war decades before. Germany and Russia were distrustful of each other but had entered into a fragile Reinsurance agreement, which kept them from fighting. There are orange links between England, France, Italy and Russia since all were engaged in empire building and thus competing for colonies in Asia and Africa.

There are two main messages in this diagram. First there are highly stressed relationships in this system that could lead to conflict. They are perhaps akin to highly stretched springs in an N-body system or stressed girders in a bridge. They could be stressed to the breaking point, which would mean open war. Second, There are some friendly or at least stable relationships between Germany and the



other great powers. Clark describes how ardently and cleverly German Chancellor Bismarck tried to keep Germany from war while he was in power. (Clark, p.125)

The situation had changed dramatically by 1907 as shown in the diagram below.



Whereas France, the United Kingdom, and Russia had been at odds over colonies before, the desire to unite against a perceived German threat apparently reversed those relationships from competitive to cooperative. This resulted in the Triple Entente. Meanwhile Germany decided to greatly increase its Naval strength because it was late entering the empire building business and wanted to strengthen its power to complete. This threatened England's long dominance of the seas and caused Britain to build more war ships in what became an arms race. So we have increasing tension in that relationship. Russia had an agreement to support Serbia, which had important consequences as war broke out in 1914.

The main thing to notice in this diagram is its key difference between the system in 1887 and twenty years later in 1907; namely that there were no friendly ties between members of the Triple Entente (in blue) and the Triple Alliance (in red). Somewhere along the line all the major players had been greatly increasing the size of their armies and developing powerful new weapons like machine guns, tanks and submarines. There was therefore- to use systems terms- a great deal of tension or

potential energy in the system; surely more than ever before in history. If unleashed it could cause a great deal of harm, which of course is what happened and killed about 20 million people.

The structure of this international system evolved between 1887 and 1907 as a continuation of how it had evolved over centuries proceeding this window in time. It evolved afterward up until the outbreak of WW1 in 1914. It evolved still further until WW2. And its still evolving. Clark does a marvelous job detailing the evolution up to WW1 with the general goal of suggesting that we learn from the past in order to keep tragic events like this from happening again. His approach is not to identify the cause of WW1 but rather to describe "how" it came to happen. (Clark, p.xxvii). In my view that was a wise approach since it challenges readers to think deeply about the cause or causes. Arguably it wasn't the assassination of the Arch Duke.

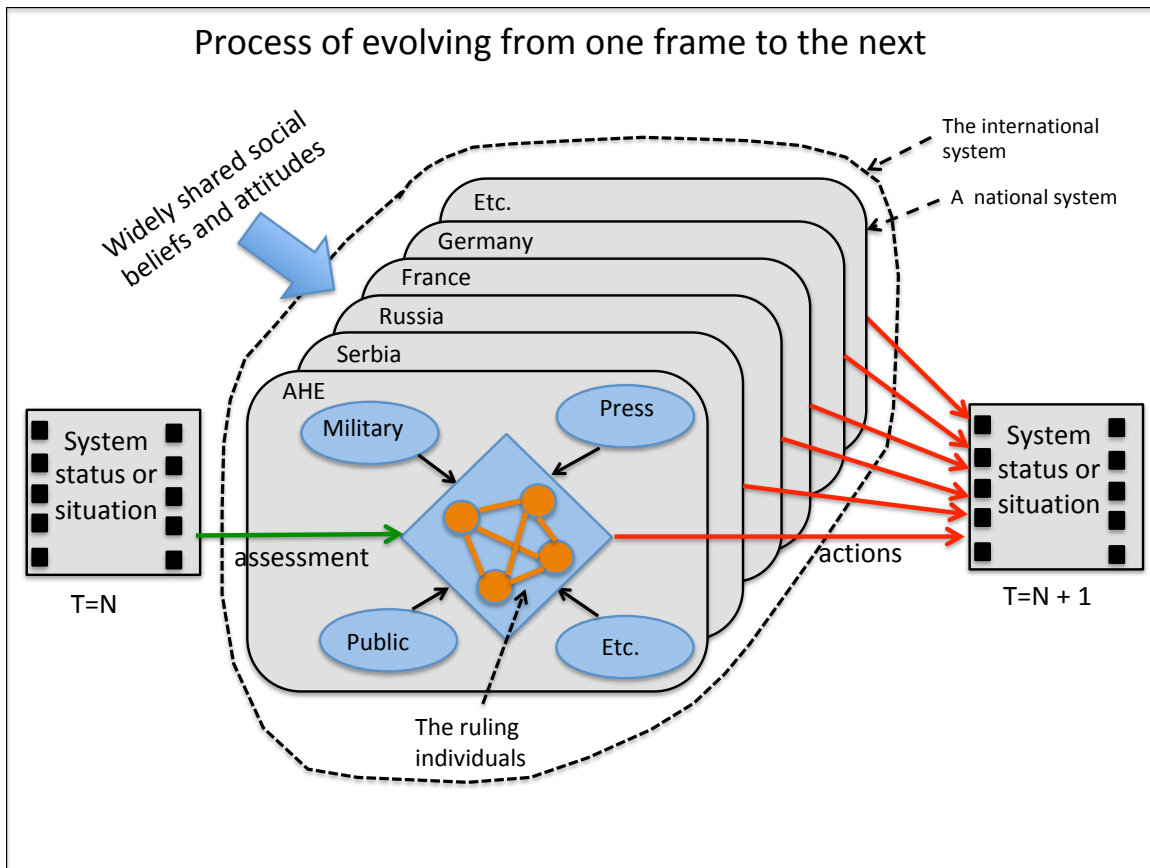
"The reaction (to killing Arch Duke Ferdinand ) among the people in Austria, however, was mild, almost indifferent. As historian Zbyněk Zeman later wrote, "the event almost failed to make any impression whatsoever. On Sunday and Monday (28 and 29 June), the crowds in Vienna listened to music and drank wine, as if nothing had happened." From:  
[https://en.wikipedia.org/wiki/World\\_War\\_I](https://en.wikipedia.org/wiki/World_War_I)

## **2.5 Decisions stepped the movie forward**

What caused one frame in the movie to change into the next? Decisions made by the ruling elites in each country were key in what caused it to change. Apparently on any given day they would assess the situation, consider alternative policies or actions they could take, try to anticipate how other nations would react, and then decide which to implement in order to best improve their nation's situation. When each nation had acted the status of the system would have changed. This process would repeat day after day causing the system's status to evolve.

I've noted that other things -beside decisions made by the ruling elites- caused the situation or status of the system to change from frame to frame. These included changes in military strength or deployments, domestic political pressures, and so forth. But I will concentrate on just the decisions.

The diagram below illustrates the process of frame to frame evolution.



The movie frame on left represents the status of the international system on some date labeled  $t=N$ . The status would include diagrams like those for 1887 and 1907, although perhaps not in chart form. The status is of course far more detailed and complex than these diagrams because it includes the attitudes and ideas of all the leaders in each country, the mood of the public, the status of the military, the themes being emphasized in the press, etc. In short it's a snapshot of reality.

The box on the right is the next frame in the movie. It represents the status of the system at some later date marked  $t=N+1$ . The interval between the two frames is somewhat arbitrary. If change is slow it may be years or even decades. As the dominos fell at the onset of WW1 things changed very rapidly and the frames are only a day apart. For instance historians describe the changes that occurred day by day between July 28th 1914 when AHE declared war on Serbia, and August 4<sup>th</sup> when all the great powers were at war. They describe the movie in slow motion around these dates.

**System structure:** The diagram shows three levels of systems that are relevant here. Each national system is a subsystem within the international system. Each national system is comprised of several major interacting "parts", which include the national leaders (shown in the blue rhombus, a symbol for decision-making), the military, the general public, the press, and other groups with influence. By this

reckoning the small group of ruling individuals (shown in orange) is a sub-sub system.

**Process:** There was a decision making process within each nation. The key process steps –which presumably occurred daily within each nation- start with assessing the situation on the ground so to speak. This would include things like the status of friendly and hostile, military forces, and treaty obligations. Next the key decision-makers discuss how to respond to that situation. What are their options and which is best. They would of course try to anticipate what other nations would do in response to whatever option they implement. They will of course be influenced by all the beliefs, pressures and attitudes expressed by the public, the military, the press and other influential players. In the end they may decide to implement some action or policy that changes the status of the system in the next frame, or the following day as it were. Other nations would do likewise. And thus the next frame in the movie is created. And so forth day after day or year after year. Obviously sometimes the situation changes drastically from day to day or even hourly and we need to examine the move in slow motion to understand what's going on. During other periods it may remain relatively stable for months or years.

Its important to recognize that the important strategic decisions were made by a very small group of powerful individuals. In Germany's case it apparently consisted of the Kaiser and three or four of his key ministers. These are individual humans each with his own perceptions of reality, his own ideas about what policies or actions are best, his own ability to convince others, and other personal idiosyncrasies. The inner workings of these decision-making groups is complex, dynamic, and arguably unpredictable: 'Do we attack preeminently before our opponent gets stronger', 'do we wait to see what others do", 'do we seek a new alliance or renegotiate an existing one', 'do we know how the others will react if we do X'. In my view it's the same type process that has always occurred in managing or ruling elites. Personalities, intelligence, past experience, mental models, aspirations and fears all enter the equation. The weights given each factor may constantly change due to circumstance or further consideration. The chemistry of these decision-making episodes is largely opaque. Clark includes detailed descriptions of these decision points in many places throughout his book. Some examples appear on pages 101, 107, 127, 147, 166, and 188+. I can't over emphasize how complex this entire evolutionary process is. It's partly why Clark takes 562 pages of small type to describe it.

I have and will continue to focus on the role of the ruling elite in determining why one frame morphs into the next, but that's not the only reason. Technology and industry advances. Politics can change. The press can raise public passions. Individuals or groups can significantly change the situation from frame to frame. In this case two individuals assassinated the Arch Duke significantly altering the status quo. We have a more recent example in the huge impact a few terrorists had on 9/11 when they crashed aircraft into the World Trade Center in New York.

Now we describe in chronological order the actions or events before WW1 that were largely decided by the ruling elites.

## 2.6 Key events on timeline

The events listed below are what caused one frame in the “movie” to differ from those that followed. Put another way these events changed the status of the system in terms of the relations between different nations, sometimes increasing cooperation between them, and sometimes increasing the level of hostility. Over some periods the key events were years apart, but near the outbreak of war the situation changed daily. The most convenient way for me to do this is with extended quotes. I’ve underlined parts I think especially significant.

This first list is from:

<https://www.thoughtco.com/world-war-1-timeline-pre-1914-1222102>

- \* 1870: The [Franco-Prussian War](#), in which France was beaten and Paris besieged. The successful attack on France and its abrupt end caused people to believe that modern war would be short and decisive—and the Germans saw it as evidence that they could win. It also made France bitter and framed their desire for a war in which they could seize 'their' land back.
- \* 1871: The creation of the German Empire. Bismarck, the architect of the German Empire feared being encircled by France and Russia and tried to prevent this any way he could.
- \* 1879: The Austro-German Treaty tied the two Germano-centric powers of Austria-Hungary and Germany together as part of Bismarck's desire to avoid war. They would fight together in World War I.
- \* 1882: The Triple Alliance was established between Germany, Austria-Hungary, and Italy, forming a central European power bloc. Italy would not accept this as binding when the war began.
- \* 1888: Wilhelm II became Emperor of Germany. He rejected the legacy of Bismarck and tried to go his own way. Unfortunately, he was basically incompetent.
- \* 1889–1913: The Anglo-German Naval Race. Britain and Germany should, perhaps, have been friends, but the race created an air of military conflict, if not an actual desire for military action by both sides.
- \* 1894: The Franco-Russian Alliance encircles Germany, much as Bismarck feared and would have tried to stop if he'd still been in power.
- \* 1904: The Entente Cordial, agreed between France and Britain. This was not a binding agreement to fight together but moved in that direction.
- \* 1907: The Anglo-Russian Convention, a pact between England and Russia relating to Persia, Afghanistan, Tibet, another pact which encircled Germany. Many in the country (Germany) believed they should fight the inevitable war now before Russia became stronger and Britain was moved to act.
- \* 1908: Austria-Hungary annexes Bosnia and Herzegovina, a significant rise in tensions in the Balkans.
- \* 1912, October 8–May 30, 1913: The First Balkan War. A European war could have been triggered any time after this point.

\* 1913, June 29–July 31: The Second Balkan War. ....

The story continues with this list from: <https://www.thoughtco.com/world-war-i-causes-2361391>

\* 1913? With the end of the fighting, Serbia emerged as a stronger power much to the annoyance of the Austrians. Concerned, Austria-Hungary sought support for a possible conflict with Serbia from Germany. After initially rebuffing their allies, the Germans offered support if Austria-Hungary was forced "to fight for its position as a Great Power."

\* 1914 **The July Crisis.** Though stunning, Franz Ferdinand's death was not viewed by most Europeans as an event that would lead to general war. In Austria-Hungary, where the politically moderate archduke was not well-liked, the government elected instead to use the assassination as an opportunity to deal with the Serbs. Quickly capturing Ilic and his men, the Austrians learned many of the details of the plot. (to kill the Arch Duke) Wishing to take military action, the government in Vienna was hesitant due to concerns about Russian intervention. Turning to their ally, the Austrians inquired regarding the German position on the matter. On July 5, 1914, Wilhelm, downplaying the Russian threat, informed the Austrian ambassador that his nation could "count on Germany's full support" regardless of the outcome. This "blank check" of support from Germany shaped Vienna's actions.

With the backing of Berlin, the Austrians began a campaign of coercive diplomacy designed to bring about a limited war. The focus of this was the presentation of an ultimatum to Serbia at 4:30 PM on July 23. Included in the ultimatum were ten demands, ranging from the arrest of the conspirators to allowing Austrian participation in the investigation, that Vienna knew Serbia could not accept as a sovereign nation. Failure to comply within forty-eight hours would mean war. Desperate to avoid a conflict, the Serbian government sought aid from the Russians but were told by Tsar Nicholas II to accept the ultimatum and hope for the best.

\* July 1914 **War Declared** With the deadline looming, most of Europe awoke to the severity of the situation. While the Russians asked for the deadline to be extended or the terms altered, the British suggested a conference be held to prevent war. Shortly before the deadline on July 25, Serbia replied that it would accept nine of the terms with reservations, but that it could not allow the Austrian authorities to operate in their territory. Judging the Serbian response to be unsatisfactory, the Austrians immediately broke off relations. While the Austrian army began to mobilize for war, the Russians announced a pre-mobilization period known as "Period Preparatory to War."

While the foreign ministers of the Triple Entente worked to prevent war, Austria-Hungary began massing its troops. In the face of this, Russia increased support for its small, Slavic ally. At 11:00 AM on July 28, Austria-Hungary declared war on Serbia. That same day Russia ordered a mobilization for the districts bordering Austria-Hungary. As Europe moved towards a larger conflict, Nicholas opened communications with Wilhelm in an effort to prevent the situation from escalating.

Behind the scenes in Berlin, German officials were eager for a war with Russia but were restrained by the need to make the Russians appear as the aggressors.

### The Dominoes Fall

While the German military clamored for war, its diplomats were working feverishly in an attempt to get Britain to remain neutral if war began. Meeting with the British ambassador on July 29, Chancellor Theobald von Bethmann-Hollweg stated he believed that Germany would soon be going to war with France and Russia, as well as alluded that German forces would violate Belgium's neutrality. As Britain was bound to protect Belgium by the 1839 Treaty of London, this meeting helped push the nation towards actively supporting its entente partners. While news that Britain was prepared to back its allies in a European war initially spooked Bethmann-Hollweg into calling on the Austrians to accept peace initiatives, word that King George V intended to remain neutral led him to halt these efforts.

Early on July 31, Russia began a full mobilization of its forces in preparation for war with Austria-Hungary. This pleased Bethmann-Hollweg who was able to couch German mobilization later that day as a response to the Russians even though it was scheduled to begin regardless. Concerned about the escalating situation, French Premier Raymond Poincaré and Prime Minister René Viviani urged Russia not to provoke a war with Germany. Shortly thereafter the French government was informed that if the Russian mobilization did not cease, then Germany would attack France.

The following day, August 1, Germany declared war on Russia and German troops began moving into Luxembourg in preparation for invading Belgium and France. As a result, France began mobilizing that day. With France being pulled into the conflict through its alliance to Russia, Britain contacted Paris on August 2 and offered to protect the French coast from naval attack. That same day, Germany contacted the Belgian government requesting free passage through Belgium for its troops. This was refused by King Albert and Germany declared war on both Belgium and France on August 3. Though it was unlikely that Britain could have remained neutral if France was attacked, it entered the fray that next day when German troops invaded Belgium activating the 1839 Treaty of London. On August 6, Austria-Hungary declared war on Russia and six days later entered into hostilities with France and Britain. **Thus by August 12, 1914, the Great Powers of Europe were at war** and four and a half years of savage bloodshed were to follow.

The same story has also been told in short videos featuring animated maps with accompanying explanations. I highly recommend viewing these two.

This video does a nice job describing the same progression of pre-war events, then continues to describe the war itself:

<https://www.youtube.com/watch?v=PbwH1ZBnYds>

This video is also very good and shows how the war spread worldwide.

<https://www.youtube.com/watch?v=SLj5r2nZHB8&t=468s>



### **3: The decision making process**

As noted above the leaders of each nation made decisions on which policies or actions to take as the geo-political system evolved prior to WW1. This section describes the kinds of things they considered, their attitudes, and the complexity of integrating all the various factors to reach a decision. Since the German ruling elite actually made the most important declaration war –against Russia- this section focuses almost exclusively on their situation. What the Russian, French, Italian, English and other national leaders considered or did is not discussed. In my view it was not at the core of things.

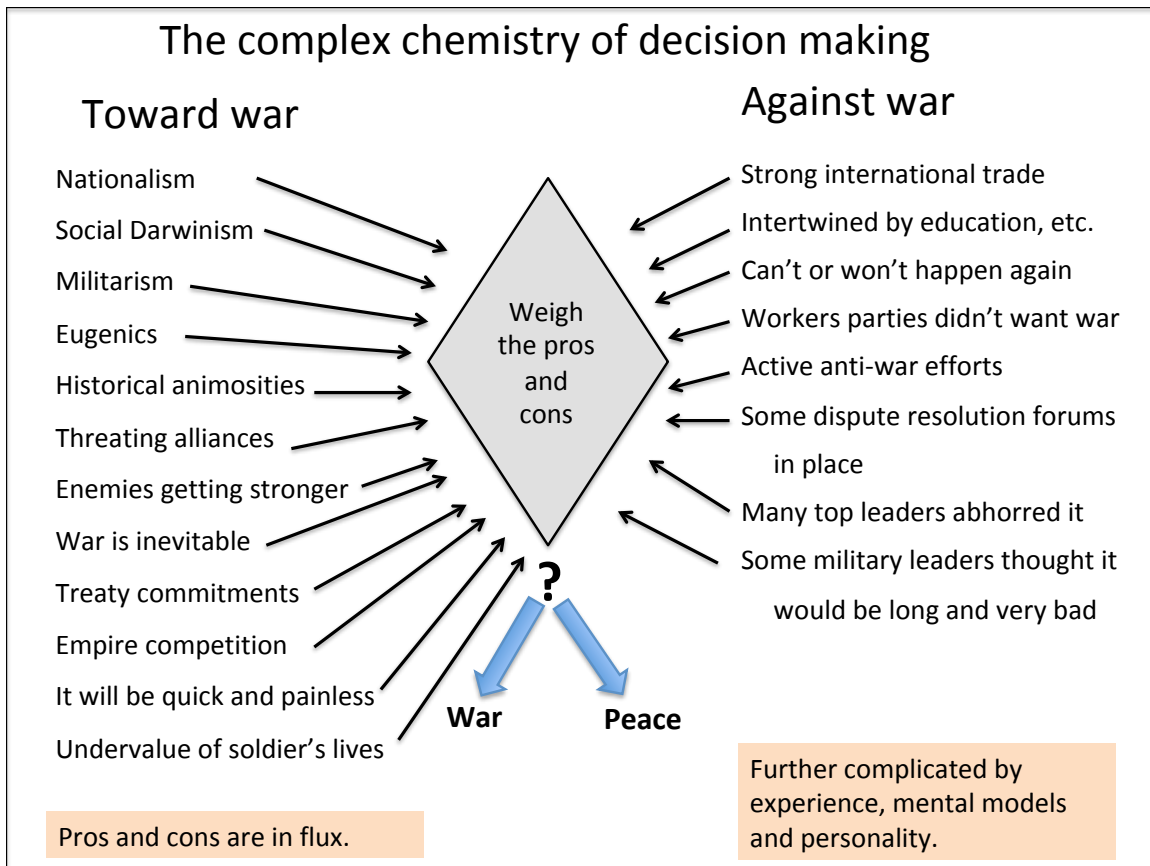
#### **3.1. A summary diagram**

In the diagram below I attempt to list many of the key factors that influenced decisions, either to make war more likely or desirable, or less so. Some can be lumped together and called widely held social beliefs or attitudes. Virtually all of these were derived from Clarks book and/or MacMillan's lectures. Viewing her lectures on youTube is the easiest way to see many of them mentioned by an expert. <https://www.youtube.com/watch?v=uWDJfraJWf0>

I did however take the liberty of adding one of my own at lower left. In my view decision makers didn't view the value of life, especially the lives of soldiers, as worth very much. They were just 'resources' to be used. Cannon fodder. Had they thought consciously that at least tens of thousands would die horrible deaths, had they have been forced to personally lead the troops on the front lines, they may have made different decisions. Had they been able to watch movies showing the human sufferings of war close-up they might have made different decisions. A current movie, called 'A Private War', is the kind I'm referring to. <https://www.youtube.com/watch?v=c5nJzsAMiDM>

This diagram lists factors present in all European countries at the time, not just Germany, but of course their strengths varied. This was the soup of considerations from which decisions emerged.





The chemistry of how all these different pressures or attitudes interacted is obviously very complex and without crawling into the minds of folks like the Kaiser, the Tsar, and various key officials no one could begin to understand it. Detailed as he was Clark didn't attempt much of it. Decision makers had to integrate all these factors -giving them relative weights -either consciously or sub-consciously- when reaching their decisions. How they did this was affected by their personal experience, education, mental models of how things worked, and of course their personality. Perhaps even their mood at the time.

To make things more complex and the outcome more uncertain these influences were sometimes in flux. One important example is that when leaders felt they were really on the brink of war some got quite fearful and sought at the last minute to prevent it. (Clark p.521, 522, 525) That why I put the statement "Many top leaders abhorred it" on the diagram.

### 3.2 Factors considered

This section describes in detail some of the factors listed in the diagram above.

#### 3.2.2 Social beliefs, passions and attitudes

My objective here is just to provide a sample of these societal beliefs and attitudes. I start with a quote that mentions several of them:

**General:** “Germany is the first port-of-call in any study of the origins of World War I. Germany before World War I was imperialistic, militaristic and autocratic, a nation struggling to assert its place in the world. In 1914 Germany had been a unified state for less than half a century. Prior to 1871 she had been nothing more than a cluster of 25 German-speaking states, city-states and duchies, sandwiched between France, Russia and the North Sea coast. The road to unification and statehood was a long and sometimes difficult one, fuelled by a rise in German nationalism in the first half of the 1800s. The rallying points for German nationalists were race, culture, language and power. They dreamed of a united Germany, its people infused with patriotism, its government manned by decisive leaders and its economy at the technological forefront of the world. At the vanguard of this new Germany would be its army and navy, a gift to the new nation from its most powerful member-state: Prussia.....Bismarck’s departure in 1890 heralded the start of the Wilhelmine era, which was so named because of the Kaiser’s active, hands-on role in deciding domestic and imperial policy. Germany’s foreign policy approach of this period was called *Weltpolitik*; it was more confident, assertive, some might say aggressive, and its stated aim was to deliver to Germany “our place in the sun”. It did not take long for *Weltpolitik* to generate tensions and fears of a European conflict. Berlin allowed its 1887 treaty with Russia to expire, and its aggressive diplomacy pushed the Russians into an alliance with France – a situation which Bismarck had long feared and worked to avoid. Germany also began to expand her empire, acquiring new colonies or possessions in Africa, East Asia and the Pacific.”

<https://alphahistory.com/worldwar1/germany/>

“During the first days of World War I, many Germans experienced a sense of bonding that had eluded them since the founding of the empire. Differences of class, religion, and politics seemed to disappear as Germans flocked to their city centres to show their enthusiastic support for the impending conflict.”

<https://www.britannica.com/place/Germany/World-War-I>

“Historians recognize that all the major nations involved in the war, on both sides, had large proportions of their population who were not only in favor of going to war, but were agitating for it to happen as a good and necessary thing...At the same time, each nation’s culture was shot through with strong currents pushing for war: armaments races, belligerent rivalries and a struggle for resources....Nationalism, elitism, racism and other belligerent thoughts were widespread ...once started few expected the conflict to last more than a few months, and the public was generally excited ....

What is more important than the immediate responsibility for the actual outbreak of war is the state of mind that was shared by all belligerents, a state of mind that envisaged the probable imminence of war and its absolute necessity in certain circumstances. (Joll and Martel, *The Origins of the First World War*, p. 131.)”

From: <https://www.thoughtco.com/causes-war-aims-world-war-one-1222048>

“War would also enable Germany to dominate more of Europe and expand the core of the German Empire east and west. But Germany wanted more. The German Empire was relatively young and lacked a key element that the other major empires – Britain, France, Russia – had: colonial land....The German government thought that a victory would allow them to gain some of their rivals’ land. Germany was also determined to keep Austria-Hungary alive as a viable ally to their south and support them in a war if necessary.” From: <https://www.thoughtco.com/causes-war-aims-world-war-one-1222048>

**Nationalism:** “Nationalism holds that a nation should govern itself, free from outside interference, and is linked to the concept of self-determination. It further aims to build and maintain a single national identity based on shared social characteristics—such as culture, language, religion, politics, and belief in a shared singular history.... It also encourages pride in national achievements, and is closely linked to patriotism.... In practice nationalism can be seen as positive or negative depending on context and individual perspective. Nationalism has been an important driver in independence movements around the world, such as the Greek Revolution, the Zionist movement that created modern Israel, and the Irish Revolution. It also was a key factor in the Holocaust perpetrated by Nazi Germany. More recently, nationalism became an important driver of the controversial annexation of Crimea by Russia.... The most influential of the German nationalist historians, was Treitschke who had an enormous influence on elite students at Heidelberg and Berlin universities.<sup>[43]</sup> Treitschke vehemently attacked parliamentarianism, socialism, pacifism, the English, the French, the Jews, and the internationalists. The core of his message was the need for a strong, unified state—a unified Germany under Prussian supervision. "It is the highest duty of the State to increase its power," he stated. Although he was a descendant of a Czech family he considered himself not Slavic but German: "I am 1000 times more the patriot than a professor.” From: <https://en.wikipedia.org/wiki/Nationalism> The article goes on to describe what nationalism meant to the Nazis.

“The experience of German-speaking Central Europe during the years of French hegemony contributed to a sense of common cause to remove the French invaders and reassert control over their own lands.”.... From the German perspective, the actions of Blücher's troops at Waterloo, and the combined efforts at Leipzig, offered a rallying point of pride and enthusiasm. This interpretation became a key building block of the *Borussian* myth expounded by the pro-Prussian nationalist historians later in the 19th century.... Another institution key to unifying the German states, the *Zollverein*, helped to create a larger sense of economic unification. Initially conceived by the Prussian Finance Minister Hans, Count von Bülow, as a Prussian customs union in 1818, the *Zollverein* linked the many Prussian and Hohenzollern territories. Over the ensuing thirty years (and more)

other German states joined. The Union helped to reduce protectionist barriers between the German states,... the roads improved.... Historians of the Second Empire later regarded the railways as the first indicator of a unified state;... As travel became easier, faster, and less expensive, Germans started to see unity in factors *other* than their language. The Brothers Grimm, who compiled a massive dictionary known as *The Grimm*, also assembled a compendium of folk tales and fables, which highlighted the story-telling parallels between different regions.... Several other factors complicated the rise of nationalism in the German states. The man-made factors included political rivalries between members of the German confederation, particularly between the Austrians and the Prussians, and socio-economic competition among the commercial and merchant interests and the old land-owning and aristocratic interests. Natural factors included widespread drought in the early 1830s, and again in the 1840s, and a food crisis.... To get the German states to unify, Bismarck needed a single, outside enemy that would declare war on one of the German states first, thus providing a *casus belli* to rally all Germans behind. This opportunity arose with the outbreak of the Franco-Prussian War in 1870..... “ From:

[https://en.wikipedia.org/wiki/Unification\\_of\\_Germany](https://en.wikipedia.org/wiki/Unification_of_Germany)

Dr. MacMillan talks about the importance of nationalism after T=34 in a lecture at: <https://www.youtube.com/watch?v=uWDJfraJWf0>

The fact that Germany had recently become a unified nation was probably very important in shaping its social beliefs like nationalism, not to mention its economic and military power. To illustrate what that involved consider the map below, which shows the situation before it united. It's a map of the Holy Roman Empire in 1789. "The map is dominated by the Habsburg Monarchy (orange) and the Kingdom of Prussia (blue), besides a large number of small states (many of them too small to be shown on the map)." It is easy to imagine that Germany got much stronger and could have a unified foreign policy after all these little states united. Had they not perhaps the Germanic peoples would not have been united or powerful enough to embark on WW1. If that were true then perhaps the fact they did unite could be listed as one cause of WW1. (This situation is analogous to that today where scattered individuals have little impact on public policy unless they unite and work together. Examples include the union and civil rights movements which were organized, versus the still disorganized folks favoring tighter gun control.) Map from: [https://en.wikipedia.org/wiki/Unification\\_of\\_Germany](https://en.wikipedia.org/wiki/Unification_of_Germany)



There will be a detailed discussion of the roots of nationalism in Section 6.1.2.

**Social Darwinism:** “Social Darwinism, the theory that human groups and races are subject to the same laws of natural selection as Charles Darwin had perceived in plants and animals in nature. According to the theory, which was popular in the late 19th and early 20th centuries, the weak were diminished and their cultures delimited while the strong grew in power and in cultural influence over the weak. Social Darwinists held that the life of humans in society was a struggle for existence ruled by “survival of the fittest,” a phrase proposed by the British philosopher and scientist Herbert Spencer.” From:

<https://www.britannica.com/topic/social-Darwinism>

“The concept also proved useful to justify what was seen by some as the inevitable extermination of "the weaker races who disappear before the stronger" not so much "through the effects of ... our vices upon them" as "what may be called the virtues of our civilization." ... Social Darwinism is often cited as an ideological justification for much of 18th/19th century European enslavement and colonization of Third World countries” From:

[https://en.wikipedia.org/wiki/Social\\_Darwinism](https://en.wikipedia.org/wiki/Social_Darwinism)

I suspect that racism is a current version of social-Darwinism.

**Pan-Germanism:** “Pan-Germanists originally sought to unify all the German and possibly also Germanic-speaking peoples in a single nation-state known as *Großdeutschland*. ... Pan-Germanism was highly influential in German politics in the 19th century during the unification of Germany when the German Empire was proclaimed as a nation-state in 1871 ... Reflecting upon the First Schleswig War in 1848, Karl Marx noted that "by quarrelling amongst themselves, instead of confederating, Germans and Scandinavians, both of them belonging to the same great race, only prepare the way for their hereditary enemy, the Slav.” From

<https://en.wikipedia.org/wiki/Pan-Germanism>

**Militarism:** “Militarism is the belief or the desire of a government or a people that a state should maintain a strong military capability and to use it aggressively to expand national interests and/or values. It may also imply the glorification of the military and of the ideals of a professional military class and the "predominance of the armed forces in the administration or policy of the state"

<https://en.wikipedia.org/wiki/Militarism> See also:

<https://alphahistory.com/worldwar1/militarism/>

‘The situation in Europe is extraordinary’ Colonel House reported to President Wilson after a trip to Europe in May 1914. ‘It is militarism run stark mad’. (H43, p.214)

This site gives one a feel for the complex philosophic underpinnings of militarism: [https://en.wikipedia.org/wiki/Gerhard\\_Ritter](https://en.wikipedia.org/wiki/Gerhard_Ritter)

Nationalism and social-Darwinism seem – in the context of WW1- to have come down to a social attitude crudely stated like this: ‘We are better people than they are and thus should dominate them’.

**Serbian nationalism:** One other strong social belief was important. The Serbs had a decades long belief that their mission and destiny was to unite all Serbs in the region into a single nation. Its described early in Clarks book. It’s why Serbia took umbrage at the AHE’s acquisition of Bosnia. (Bosnia was 40% Serb) The Serbian



desire to unite all Serbs is eerily similar to the aspirations of the Kurds today, and maybe China re Taiwan.

**Source of social beliefs:** It seems likely that some social beliefs evolve over time in response to a history of past experiences. In other works they spring from past realities. For instance if war wasn't greatly feared just before WW1, that attitude must have emerged from past experience. By way of supporting detail the 1870 Franco-Prussian war over Alsace-Lorraine lasted only 6 months and killed 139,00 French soldiers, which sounds horrible but was only about 7% of its deployed soldiers. Germany had 45,000 soldiers killed, which was only 3% of its deployed army. [https://en.wikipedia.org/wiki/Franco-Prussian\\_War](https://en.wikipedia.org/wiki/Franco-Prussian_War). Had the French known they would lose 1.4 million soldiers and 340,000 civilians in WW1 they may have been far more leery of war. It seems even more likely the Germans would have avoided war if they knew they would lose 2 million soldiers (18% of their army and 44 times as many soldiers as in their prior war with France.) Certainly no-one anticipated that about 20 million would die in WW1. [https://en.wikipedia.org/wiki/World\\_War\\_I\\_casualties](https://en.wikipedia.org/wiki/World_War_I_casualties)

Stepping back, it makes sense that beliefs would not emerge out of thin air, but rather that would be influenced by reality. In the terms of inactive systems its a cyclic relationship. Beliefs influence reality and reality influences beliefs. The two are interactive and evolve in parallel, albeit beliefs probable lag because they integrate or grow over a period of prior experience rather than suddenly emerge from current affairs. In addition to that long term source of beliefs, other beliefs are blindly accepted from the preaching's of true believers, may have little basis in reality, but are nevertheless attractive because they satisfy some physiological need like esteem or belonging.

In sum, it doesn't seem the importance of social beliefs, whether conscious and openly expressed, or sub-conscious and not-admitted, can be overestimated in how they shape decisions and thus the evolution of history. They are the broad currents upon which history rides.

### **3.2.2 Attitudes toward war**

These quotes indicate that it was not just the ruling elites but also the general public that was supportive of war.

“Historians recognize that all the major nations involved in the war, on both sides, had large proportions of their population who were not only in favor of going to war, but were agitating for it to happen as a good and necessary thing...At the same time, each nation's culture was shot through with strong currents pushing for war: armaments races, belligerent rivalries and a struggle for resources....Nationalism, elitism, racism and other belligerent thoughts were widespread ...once started few expected the conflict to last more than a few months, and the public was generally excited.” ....

“What is more important than the immediate responsibility for the actual outbreak of war is the state of mind that was shared by all belligerents, a state of mind that envisaged the probable imminence of war and its absolute necessity in certain circumstances.” (Joll and Martel, *The Origins of the First World War*, p. 131.)”

“War would also enable Germany to dominate more of Europe and expand the core of the German Empire east and west. But Germany wanted more. The German Empire was relatively young and lacked a key element that the other major empires – Britain, France, Russia – had: colonial land....The German government thought that a victory would allow them to gain some of their rivals’ land. Germany was also determined to keep Austria-Hungary alive as a viable ally to their south and support them in a war if necessary.” From:  
<https://www.thoughtco.com/causes-war-aims-world-war-one-1222048>

### **3.2.3 Pressure groups**

Germany’s ruling elite was one part in the internal political system of the German nation, which also included the leader’s staffs, the military, the public, the press, business groups, and political groups. (See the systems diagram in section 2.2.) Although the German elite had a near dictatorial level of discretionary power, they were influenced by these other stakeholders to some extent. Historians emphasize the significant pro-war influence wielded by the military in Germany. My sense is that since these “peripheral players” had influence but not decision-making power it is safe to ignore the details of what each wanted and just concentrate on what the ruling elite thought and did. And it makes this story shorter. Here is a quote from Clark indicating that these influences did exist.

“Policymaking was not the prerogative of single sovereign individuals. Initiatives with a bearing on the course of a country’s policy could and did emanate from quite peripheral locations in the political structure. Factional alignments, functional frictions within government, economic or financial constraints and the volatile chemistry of public opinion or exerted a constantly during pressure on decision making processes. Has the power to shape decision shifted from one node in the executive structure to another, there were corresponding oscillations in the tone and orientation of policy. This chaos of compelling voices is critical to understanding...” (H43, p.168)

### **3.3 German leaders wanted war**

There seem to be considerable evidence that German leaders favored war. These quotes support my conclusion. This first set capture the views of several historians. They mention some of the things that influenced these leaders and give some indication of the complexity of the environment in which they made decisions. These first quotes are from: [https://encyclopedia.1914-1918-online.net/article/the\\_historiography\\_of\\_the\\_origins\\_of\\_the\\_first\\_world\\_war](https://encyclopedia.1914-1918-online.net/article/the_historiography_of_the_origins_of_the_first_world_war)



“Renouvin’s own contribution, *La crise européenne et la grande guerre*, published as part of the series on European history, *Peuples et civilisations*, held German and Austro-Hungarian leaders primarily responsible for the outbreak of war. Their willingness to risk war and German leaders’ belief in the inevitability of war – rather than the Russian decision to mobilise on 30 July – were decisive in bringing about war. This confirmed his findings in an earlier volume on the July crisis. Renouvin’s style remained remarkably dispassionate, especially given the loss of his left arm, as a result of injuries suffered in April 1917.”

“The most comprehensive analysis of the origins of the war, written by the former editor of *Corriere della Sera*, Luigi Albertini (1871-1941), was published during the Second World War. It represented the culmination of the diplomatic history approach of the interwar years. Supported by Luciano Magrini (1885-1957), the former foreign correspondent of *Corriere della Sera*, Albertini’s study dissected minutely individual decisions, which he saw as “the chain of recklessness and error, which brought Europe to catastrophe.” Albertini attributed the “final, definite responsibility” to the German military planners, whose mobilisation plans ensured war, while also castigating the political miscalculations of leaders in Vienna and Berlin, who hoped for localised war but were prepared to risk a general European war.”

“...Taylor argued that the origins of the war were primarily rooted in the crisis-prone politics of the German Empire after 1906. Foreign policy setbacks – the formation of the Triple Entente between 1904 and 1907 and an over-reliance on the Austro-Hungarian ally – and the increasing fragility of Bismarckian constitutional settlement of 1871 increased the willingness of German leaders to pursue highly risky policies. He disputed that any single person “ruled at Berlin”, but he contended that the elites saw war as a solution to the growing domestic problems. Success in war served domestic agendas, buttressing authoritarian elites against democratic reforms.<sup>[13]</sup> His masterpiece, *The Struggle for Mastery in Europe, 1848-1918*, took a different approach, analysing the international system and paying little attention to domestic pressures, but he concluded that the incompetence of Wilhelm II and Chancellor Theobald von Bethmann Hollweg (1856-1921) and the aggressive ambitions of German generals caused the war.”

“It was in this context that the Fischer controversy broke. ... Fritz Fischer’s (1908-1999) thesis about German plans to initiate a war and then to pursue expansionist war aims hardly came as a surprise to historians outside the Federal Republic. ... Fischer’s thesis requires a brief summary. From the time of the infamous War Council meeting in December 1912, he argued, German leaders planned a war of aggression. The drive to war resulted from increasing anxiety amongst German elites about the deterioration of the domestic and international stability of the Empire. Crucially, Fischer argued, German leaders had brought this situation upon themselves. At home, they stalled on constitutional changes, while German isolation in international politics was the result of menacing moves over Morocco and the Balkans after the turn of the century. It was a case of self-

encirclement. He showed how military and political leaders prepared for war from late 1912, increasing the size of the army and fostering aggressive nationalist public opinion. This interpretation significantly reduced the interpretive weight placed on the international system. His interpretation derived from a methodological move, from the primacy of foreign policy to the primacy of domestic politics. On this reading, foreign policy was primarily the product of domestic political pressures.”

“By the 1970s, Fischer’s thesis had become the new orthodoxy. ... Yet the success of any historical argument also owes much to wider political and social contexts. Within West German universities, a new generation of graduate students adopted a more critical perspective on German history. They tended to emphasize the long-term continuities that culminated in the Third Reich. ... A new generation of German historians went much further than Fischer in emphasizing the domestic roots of the origins of the war. He (Wehler) introduced new approaches from the social sciences, which saw domestic politics as a struggle between different economic and social groups. Social elites – business people, agrarians, the officer corps, and the mandarin class – forged alliances to retain power and wealth at the expense of workers, peasants, and other social groups. They thwarted constitutional reform.....By the late 1970s a new orthodoxy about the origins of the war was established, emphasizing the primary responsibility of German leaders for ending peace in Europe and the flawed domestic political development of the German nation-state after 1871.”

“Again, this reflects Clark’s reframing of the question in terms of “how”, rather than “why”. The historian exploits their vantage point to show how the system operated and collapsed. Perhaps most fundamentally, both agree that no single belligerent or individual should shoulder the bulk of the responsibility for the outbreak of war. Their differences are ones of emphasis and detail.....For some, Clark’s thesis of shared responsibility between the belligerents for the outbreak of war will give succor to those who want to cast aside Germany’s role in two world wars and adopt a more assertive reading of the national interest. For others, the burden of “war guilt” cripples Berlin’s leadership, damaging European institutions as well as German interests.” (end of quotes from Encyclopedia site)

In my view these quotes show that the key German leaders wanted war.

The Kaiser wanted war:

“The impetuous young Kaiser rejected Bismarck's "peaceful foreign policy" and instead plotted with senior generals to work "in favor of a war of aggression". Bismarck told an aide, "That young man wants war with Russia, and would like to draw his sword straight away if he could. I shall not be a party to it." “....In the early twentieth century Wilhelm began to concentrate upon his real agenda; the creation of a German navy that would rival that of Britain and enable Germany to declare itself a world power. ...He believed in force, and the 'survival of the fittest' in domestic as well as foreign politics ... William was not lacking in

intelligence, but he did lack stability, disguising his deep insecurities by swagger and tough talk. He frequently fell into depressions and hysterics ... William's personal instability was reflected in vacillations of policy. His actions, at home as well as abroad, lacked guidance, and therefore often bewildered or infuriated public opinion. He was not so much concerned with gaining specific objectives, as had been the case with Bismarck, as with asserting his will. ...It is now widely recognized that the various spectacular acts which Wilhelm undertook in the international sphere were often partially encouraged by the German foreign policy elite.

More recent British authors state that Wilhelm II really declared, "Ruthlessness and weakness will start the most terrifying war of the world, whose purpose is to destroy Germany. Because there can no longer be any doubts, England, France and Russia have conspired themselves together to fight an annihilation war against us"

"After meeting with Austro-Hungarian Ambassador to Germany Szögyény on 5 July, the German Emperor informed him that his state could "count on Germany's full support", even if "grave European complications" ensued, and that Austria-Hungary "ought to march at once" against Serbia. He added that "in any case, as things stood today, Russia was not at all ready for war, and would certainly think long before appealing to arms". Even if Russia were to act in defense of Serbia, Wilhelm promised that Germany would do everything in its power, including war, to support Austria-Hungary." From:

[https://en.wikipedia.org/wiki/Wilhelm\\_II,\\_German\\_Emperor](https://en.wikipedia.org/wiki/Wilhelm_II,_German_Emperor)

Secretary of State Jagow wanted war:

"Jagow's belief that the summer of 1914 was the best time for Germany to go to war was widely shared in the German government. Many German officials believed that the "Teuton race" and "Slav race" were destined to fight each other in a terrible "race war" for the domination of Europe, and that now was the best time for such a war to come. "

Chancellor Bethmann Hollweg wanted war:

"On 16 July, Bethmann Hollweg told Siegfried von Roedern, the State Secretary for Alsace-Lorraine, that he couldn't care less about Serbia or alleged Serbian complicity in the assassination of Franz Ferdinand. All that mattered was that Austria attack Serbia that summer, to result in a win-win situation for Germany. If Bethmann Hollweg's view was correct, an Austro-Serbian war would either cause a general war (which Bethmann Hollweg believed Germany would win) or cause the Triple Entente to break up.."

General Helmuth von Moltke wanted war:

"General Helmuth von Moltke of the German General Staff again strongly approved of the idea of an Austrian attack on Serbia as the best way of bringing about the desired world war.

Starting 23 July, all of Germany's leaders returned secretly to Berlin to deal with the crisis. A division between those led by Bethmann-Hollweg who wanted to see what would happen following an Austrian attack on Serbia, and the military led by Moltke and Falkenhayn, who urged that Germany immediately follow an Austrian attack on Serbia with a German attack on Russia. Moltke repeatedly stated that 1914 would be the best time for starting a "preventive war", or the Russian Great Military Programme would finish by 1917, making Germany unable to ever again risk a war. Moltke added that Russian mobilization was regarded as an opportunity to be sought rather than as a sort of threat, as it would allow Germany to go to war while presenting it as forced on Germany

Later, on 27 July, Austria-Hungary started to complete the preparations for war. That same day, Jagow informed Szögyény that he was only pretending to take up the British offers of mediation in order to ensure British neutrality but had no intention of stopping the war."

The Kaiser gets cold feet but is overruled:

"On 28 July, after reading Serbia's reply, Wilhelm commented, "*But* that eliminates any reason for war" or "*every cause* for war falls to the ground". Wilhelm noted that Serbia had made "a capitulation of the most humiliating kind", that "the few reservations [that] Serbia has made with respect to certain points can in my opinion surely be cleared up by negotiation", and acting independently of Grey, made a similar "Stop in Belgrade" offer.<sup>[134]</sup> Wilhelm stated that because "the Serbs are Orientals, therefore liars, tricksters, and masters of evasion", a temporary Austrian occupation of Belgrade was required until Serbia kept its word. .... Wilhelm's sudden change of mind about war enraged Bethmann Hollweg, the military, and the diplomatic service, who proceeded to sabotage Wilhelm's offer. A German general wrote: "unfortunately ... peaceful news. The Kaiser wants peace ... He even wants to influence Austria and to stop continuing further." Bethmann Hollweg sabotaged Wilhelm's proposal .... Jagow told his diplomats to disregard Wilhelm's peace offer, and continue to press for war. General Falkenhayn told Wilhelm he "no longer had control of the affair in his own hands". Falkenhayn went on to imply that the military would stage a coup d'état, and depose Wilhelm in favour of the hawkish Crown Prince Wilhelm if he continued to work for peace." From: [https://en.wikipedia.org/wiki/July\\_Crisis](https://en.wikipedia.org/wiki/July_Crisis)

This quote indicates that German leaders were essentially waiting for the right time to declare war.

For a somewhat deeper understanding of these men I suggest reading summary biographies of them in Wikipedia. Again one sees complexities.

"Concerned, Austria-Hungary sought support for a possible conflict with Serbia from Germany. After initially rebuffing their allies, the Germans offered support

if Austria-Hungary was forced "to fight for its position as a Great Power.".... German officials were eager for a war with Russia but were restrained by the need to make the Russians appear as the aggressors. ... While the German military clamored for war, .....The following day, August 1, Germany declared war on Russia and German troops began moving into Luxembourg in preparation for invading Belgium and France. As a result, France began mobilizing that day. With France being pulled into the conflict through its alliance to Russia,... From: <https://www.thoughtco.com/causes-war-aims-world-war-one-1222048>

From the above one might conclude that the cause of WW1 was simply because these key German leaders wanted it. Yet that's too simplistic in my view. One must ask for the reasons why they favored war, and then go back still further and ask what causes each of those reasons to occur. I will suggest that there were causes of the causes, causes of those causes, and so forth going back into the mists of history. I'll have more on this later.

### 3.4 Distorting factors

There were a number of factors which distort the decision making process and make it less rational than it might be.

**3.3.4 Personalities:** Personality affects attitudes and decisions as one might expect. Of course all humans have somewhat different personalities that can affect their attitudes and decisions; perhaps making them less rational than the facts would warrant. They have different lenses through which to view reality, thus a filtered and biased view of it. They have different mental models of how the world is, and how it works. They differ in smarts, assertiveness, and skill in promoting their opinions. These are just a few examples of that generic truth.

Clark and other historians make much of the Kaiser's abnormal personality.

"Bombastic and impetuous, he sometimes made tactless pronouncements on sensitive topics without consulting his ministers, behavior which culminated in a disastrous *Daily Telegraph* interview in 1908 that cost him most of his influence..... A traumatic breech birth ....left him with a withered left arm ... Historians have suggested that this disability affected his emotional development..... he agreed with his tutors' support of autocratic rule, and gradually became thoroughly 'Prussianized' under their influence. He thus became alienated from his parents.... Both sides of his family had suffered from mental illness, and this may explain his emotional instability... Historians have frequently stressed the role of Wilhelm's personality in shaping his reign... ... gifted, with a quick understanding, sometimes brilliant, with a taste for the modern,—technology, industry, science—but at the same time superficial, hasty, restless, unable to relax, without any deeper level of seriousness, without any desire for hard work or drive to see things through to the end, without any sense

of sobriety, for balance and boundaries, or even for reality and real problems, uncontrollable and scarcely capable of learning from experience, desperate for applause and success,—as Bismarck said early on in his life, he wanted every day to be his birthday—romantic, sentimental and theatrical, unsure and arrogant, with an immeasurably exaggerated self-confidence and desire to show off,”  
From: [https://en.wikipedia.org/wiki/Wilhelm\\_II,\\_German\\_Emperor](https://en.wikipedia.org/wiki/Wilhelm_II,_German_Emperor)

(Speaking about the Kaiser the French ambassador said) ‘to see how this man so sudden, so reckless and impulsive in words, is full of caution in patience in action’. (H 43, p.183)

And Clark had this to say about two Russians:

“Professional friction swiftly deepened into lively personal hatred. Sukhomlinov thought Kokovtsov ‘narrow, verbose and self-seeking’; Kokovtsov accused the minister of war of incompetence, irresponsibility and corruption.” (H43, p.215)

**3.3.5 Imperfect info and analysis** Decision makers depend on the information supplied by diplomats and intelligence agencies and that information is never perfect for a variety of reasons. Clark cites at least one instance where important information was simply late.

**3.3.6 Decisions made by a small group** This appeared to be the case in Germany especially, where the Kaiser and 3 or 4 other individuals apparently made the key decisions. In my view that is quite risky because in complex situations a few individuals simply can’t master all the facts involved or be aware of, or advocates for, all the viewpoints and options. Maybe including business-men, historians, deep thinkers, and social workers would have changed the calculus in the Kaisers small group. Perhaps they would have made the case for restraint, or emphasized the potential loss of life. It makes one think about the Situation room in Washington and those involved, or not involved. It makes one think about the suitcase containing the code for nuclear war in just one person’s hands.

## **3. 5 Complexity of decision-making**

**3.5.1 Complexity in the system:** One of the most important points to make about societal systems is how complex their internal behavior is. There are so many variables at play and so many individuals and group influencing how the system evolves. They all interact in dynamic fashion. That complexity obviously puts severe constraints on our ability to predict how these systems will behave in future. Think about your, or anyone’s, ability to predict how the economy, the next elections, or international relations will be in a couple years. Obviously its impossible to know enough about the current detailed state of these systems, much less how all the parts influence each other, to make a predictive computer model, IF in fact the future depends on the integrated, interactions of all of the little pieces. It seems our

only hope for prediction is if we can identify a few broad underlying trends try to what would happen as they interact. Right now I suspect that's somewhat possible and would be useful to pursue. It's almost a philosophical issue: do we need to know everything in order to know anything?

The following long quotes from Clark might serve best to illustrate this complexity. This sea of detail is what readers like myself confront when trying to formulate summaries and generalizations. They also provide a good example of the detail in Clarks book.

“That the crisis of 1914 was complex has been one of the central contentions of this book....Given the inter-relationships across the system, the consequences of any one action depended on the responsive actions of others,...” (H43, p.555)

“Even if we were to assume that the foreign policies of the prewar European powers or formulated and managed by compact executives animated by a unified and coherent purpose, reconstructing relations among them would still be a daunting task, given that no relationship between any two powers can be fully understood without reference to relations with all of the others. But in the Europe of 1903-1914 the reality was even more complex than the international model would suggest. The chaotic interventions of monarchs, and big US relationships between civil and military, adversarial competition among key politicians, in systems characterized by low levels of ministerial or cabinet solidarity, compounded by the agitations of a critical mass press against the background of intermittent crisis and height intentions over security issues made this a period of unprecedented uncertainty in international relationships. The policy oscillations and mixed signal in their resolve made it difficult, not just for historians, but for the statement of the last pre-war years to read the international environment.” (H43, p.239)

“Throughout the middle weeks of July 1914 the German decision maker's stuck like barnacles to their policy of localization. During the early days it was still quite easy to imagine a very swift resolution of the crisis. Wilhelm II told Emperor Francis Joseph on 6 July that the situation would be cleared up within a week because of Serbia's backing down...., though was possible as he remarked to minister ... that the period of tension might last a little longer, perhaps as long as three weeks. But even in the third week of July when the hope of a swift resolution no longer seemed realistic, the political leadership remained committed to localization. On 17 July they charge d'affaires ... in Berlin learned that a localization of the conflict is expected, since England is absolutely pacific and France as well as Russia likewise do not feel inclined towards war. In a circular of 21 July to the German ambassadors ... Bethmann declared; “we urgently desire a localization of the conflict; an intervention by any other power will, in the view of the divergent alliance commitments, lead to incalculable consequences’.

“One condition for successful localization was the Germans themselves must avoid any action likely to trigger an escalation. It was partly with this end in mind, and partly to secure the autonomy and freedom from distraction he needed to manage the crisis, that Bethmann encouraged the Kaiser to leave Berlin for his scheduled cruise of the Baltic....It would be a mistake to make too much of these departures. The individuals involved were aware of the gravity of a crisis and confident in the existing state of readiness of the German military; they also understood that a further escalation was unlikely until the Austrians took some kind of action vis-a-vie Belgrade. On the other hand, it is going too far to speak of an elaborate German ploy to distract the attention of the world from preparations for continental war that had already been resolved upon and planned in advance... There were no summit discussions among the senior German commanders and Moltke did not return from taking the waters in Bohemia until 25 July. On the 13th he wrote to the German military attaché in Vienna that Austria would be well advised to ‘beat the Serbs and then make peace quickly, demanding an Austrian-Serbian alliance as the sole condition’... at this point he apparently still believed it possible that Austria would launch and complete its strike on Serbia without triggering a Russian intervention. Particularly noteworthy is the lack of activity on the part of the military intelligence network’s... Only on 16 July did it occur to someone in the operations department that it might be ‘desirable to watch developments in Russia more closely than this is done in times of complete political calm’ but even this circular made it clear that there was no call for ‘special measures of any kind’.... In order not to compromise the localization plan Bethmann... repeatedly urged the Austrians to get their skates on and produce their tensely waited-for accomplishment. But the decision makers in Vienna were unable or unwilling to comply. The cumbersome machinery of the Habsburg state did not lend itself to swift and decisive measures.” (H43, p.515+)

**3.5.2 Sequence of main events during July crisis:** To further hammer home the complexity of this system's behavior another set of quotes follow. Some of this is redundant with what's already been cited, but it's well to review the main sequence of events once more. This extended quote is from:

[https://en.wikipedia.org/wiki/July\\_Crisis](https://en.wikipedia.org/wiki/July_Crisis)

On 2 July, the Saxon Ambassador in Berlin wrote back to his king that the German Army wanted Austria to attack Serbia as quickly as possible because the time was right for a general war since Germany was more prepared for war than either Russia or France. On 3 July, the Saxon military attaché in Berlin reported that the German General Staff "would be pleased if war were to come about now".

Emperor Wilhelm II came to share the views of the German General Staff and declared on 4 July that he was entirely for "settling accounts with Serbia". He ordered the German ambassador in Vienna, Count Heinrich von Tschirschky, to stop advising restraint, writing that "Tschirschky will be so good to drop this



nonsense. We must finish with the Serbs, *quickly*. Now or never!". In response, Tschirschky told the Austro-Hungarian government that next day that "Germany would support the Monarchy through thick and thin, whatever action it decided to take against Serbia. The sooner Austria-Hungary struck, the better"

Even if Russia were to act in defense of Serbia, Wilhelm promised that Germany would do everything in its power, including war, to support Austria-Hungary

On 6 July, Bethmann-Hollweg and Zimmermann further repeated the promise of Wilhelm's "blank cheque" at a conference with Szögyény. Although Bethmann Hollweg stated that the decision for war or peace was in Austria's hands, he strongly advised that Austria choose the former.

At this time, the German military supported the idea of an Austrian attack against Serbia as the best way of starting a general war

On balance, at this point in the crisis, the Germans anticipated that their support would mean the war would be a localized affair between Austria-Hungary and Serbia.

Over the next few days, the demands were reinforced, possibly with the help of the German Foreign Office to make sure there was a war, and made more iron-clad and difficult for Serbia to accept.

On 7 July, on his return to Vienna, Count Hoyos reported to Austro-Hungarian Crown Council that Austria had Germany's full support even if "measures against Serbia should bring about a big war"

Starting 7 July, the German Ambassador to Austria-Hungary, Heinrich von Tschirschky, and Austro-Hungarian Foreign Minister Berchtold held almost daily meetings about how to co-ordinate the diplomatic action to justify a war against Serbia.... On 7 July, Bethmann Hollweg told his aide and close friend Kurt Riezler that "action against Serbia can lead to a world war". Bethmann Hollweg felt such a "leap in the dark" was justified by the international situation. Bethmann Hollweg told Riezler that Germany was "completely paralyzed" and that the "future belongs to Russia which is growing and growing, and is becoming an ever increasing nightmare to us". Riezler went to write in his diary that Bethmann Hollweg painted a "devastating picture" with Russia building rail-roads in Congress Poland that allow Russia to mobilize faster once the Great Military Programme was finished in 1917, and that an Austro-Serbian war would probably cause a world war, "which would lead to an overthrow of the existing order", but since the "existing order was lifeless and void of ideas", such a war could only be welcomed as a blessing to Germany.... On 10 July, Berchtold told Tschirschky he would present Serbia with an ultimatum containing "unacceptable demands" as the best way of causing war...

On 12 July, Szögyény reported from Berlin that everyone in the German government wanted to see Austria-Hungary declare war on Serbia at once.... That same day, Jagow sent instructions to Prince Lichnowsky, the German Ambassador in London, stating Germany had decided to do everything within its power to cause an Austro-Serbian war, but Germany must avoid the impression "that we were egging Austria on to war.... Russia and Germany being destined to fight each other, Jagow believed that now was the best time for the inevitable war

Jagow's belief that the summer of 1914 was the best time for Germany to go to war was widely shared in the German government. Many German officials believed that the "Teuton race" and "Slav race" were destined to fight each other in a terrible "race war" for the domination of Europe, and that now was the best time for such a war to come. The Chief of the German General Staff, Moltke, told Count Lerchenfeld, the Bavarian Minister in Berlin, that "a moment so favorable from the military point of view might never occur again"

The extent of German influence was evident when Jagow ordered Berchtold to delay the ultimatum by an hour to make sure that the French President and Premier were at sea after their summit in St. Petersburg

General Helmuth von Moltke of the German General Staff again strongly approved of the idea of an Austrian attack on Serbia as the best way of bringing about the desired world war

On 22 July, Germany refused an Austrian request to have the German Minister in Belgrade present the ultimatum to Serbia because as Jagow had said, it would look too much "as though we were egging Austria on to make war

German shipping tycoon Albert Ballin recalled that when the German government heard a misleading report that Serbia had accepted the ultimatum, there was "disappointment", but "tremendous joy" when it learned that the Serbs had not accepted all of the Austrian terms. When Ballin suggested Wilhelm end his North Sea cruise to deal with the crisis, the German Foreign Ministry flatly stated the Emperor should continue his cruise because "everything must be done to ensure that he [Wilhelm] does not interfere in things with his pacifist ideas"

Starting 23 July, all of Germany's leaders returned secretly to Berlin to deal with the crisis. A division between those led by Bethmann-Hollweg who wanted to see what would happen following an Austrian attack on Serbia, and the military led by Moltke and Falkenhayn, who urged that Germany immediately follow an Austrian attack on Serbia with a German attack on Russia. Moltke repeatedly stated that 1914 would be the best time for starting a "preventive war", or the Russian Great Military Programme would finish by 1917, making Germany unable to ever again risk a war

On 24 July, the Serbian government, expecting an Austrian declaration of war the next day, mobilized while Austria broke off diplomatic relations. The British Ambassador to Austria-Hungary reported to London: "War is thought imminent. Wildest enthusiasm prevails in Vienna." Asquith wrote in a letter to Venetia Stanley that he was worried that Russia was trying to entangle Britain in what he described as "the most dangerous situation of the last 40 years". To stop a war, the Permanent Secretary of the British Foreign Office, Sir Arthur Nicolson, suggested again that a conference be held in London chaired by Britain, Germany, Italy and France to resolve the dispute between Austria and Serbia.

On 25 July, Emperor Franz Joseph signed a mobilization order for eight army corps to begin operations against Serbia on 28 July

On 24–25 July, The Russian government again asked Austria to extend the deadline, and advised the Serbs to offer as little resistance as possible to the terms of the Austrian ultimatum. Finally to deter Austria from war, the Russian Council of Ministers ordered a partial mobilization against Austria

On 25 July 1914, the council of ministers was held in ...at which Tsar Nicholas II decided to intervene in the Austro-Serbian conflict, a step toward general war. He put the Russian army on alert on 25 July. Although this was not mobilization, it threatened the German and Austrian borders and looked like a military declaration of war.... Christopher Clark states, "It would be difficult to overstate the historical importance of the meetings of 24 and 25 July", as it emboldened Serbia and raised the stakes for Germany, which was still hoping for a conflict localized to the Balkans

Russia was anxious to avoid a war because the Great Military Programme was not to be completed until 1917, and Russia was otherwise not ready for war.

Bethmann Hollweg in a message to the German Ambassadors in London, Paris and St. Petersburg stated that the principal aim of German foreign policy now was to make it appear that Russia had forced Germany into a war, in order to keep Britain neutral and ensure that German public opinion would back the war effort. Bethmann Hollweg advised Wilhelm to send Nicholas a telegram, which he assured the Emperor was for public relations purposes only. As Bethmann Hollweg put it, "If war should come after all, such a telegram would make Russia's guilt glaringly plain". Moltke visited the German Foreign Ministry to advise Jagow that Germany should start drafting an ultimatum to justify an invasion of Belgium. Later, Moltke met with Bethmann Hollweg, and told his wife later that same day that he had informed the Chancellor he was "very dissatisfied" that Germany had not yet attacked Russia

**Wilhelm has second thoughts (26 July)** On 28 July, after reading Serbia's reply, Wilhelm commented, "*But* that eliminates any reason for war"... Wilhelm's sudden change of mind about war enraged Bethmann Hollweg, the military, and

the diplomatic service, who proceeded to sabotage Wilhelm's offer. A German general wrote: "unfortunately ... peaceful news. The Kaiser wants peace ... He even wants to influence Austria and to stop continuing further." Bethmann Hollweg sabotaged Wilhelm's proposal by instructing von Tschirschky to not restrain Austria.<sup>1</sup> In passing on Wilhelm's message, Bethmann Hollweg excluded the parts wherein the Emperor told the Austrians not to go to war. Jagow told his diplomats to disregard Wilhelm's peace offer, and continue to press for war.... Bethmann Hollweg mentioned two favourable conditions for war in his telegram to Vienna: that Russia be made to appear the aggressor forcing a reluctant Germany into war,.... Later, on 27 July, Austria-Hungary started to complete the preparations for war. That same day, Jagow informed Szögyény that he was only pretending to take up the British offers of mediation in order to ensure British neutrality but had no intention of stopping the war.... Bethmann Hollweg told Wilhelm that "In all events Russia must ruthlessly be put in the wrong"

Moltke stated that Germany would never be able to entertain the prospect of a victorious war again and so should destroy both France and Russia while it was still possible. Moltke ended his assessment with: "We shall never hit it again so well as we do now." Jagow backed up Moltke by sending a message to Vienna telling the Austrians they must attack Serbia at once because otherwise the British peace plan might be accepted... Moltke was overruled by Bethmann Hollweg in two meetings on 29 July, who argued that Germany should wait for Russia to begin a general mobilization. As Bethmann Hollweg told Moltke, this was the best way to ensure that blame for the "whole shemozzle" could be placed on Russia's door, and thus ensure British neutrality... At a meeting with Bethmann Hollweg late on 29 July, Falkenhayn and Moltke both again demanded that Germany use Russian partial mobilization as an excuse to go to war

Got cold feet: "On 28 July, Russia ordered partial mobilization in response to Austria's declaration of war on Serbia, Bethmann-Hollweg became alarmed and changed his attitude 180 degrees.... Bethmann Hollweg, now aware of the Russian order for partial mobilization, fired off several telegrams in the early morning hours of 30 July. He telegraphed Vienna at 2:55 a.m. and 3:00 a.m. urging that Austria-Hungary accept the Serbian terms in order to avoid drawing Germany into a general war.... On 30 July, Nicholas sent a message to Wilhelm informing him that he had ordered partial mobilization against Austria, and asking him to do his utmost for a peaceful solution. Upon hearing of Russia's partial mobilization, Wilhelm wrote: "Then I must mobilize too." The German Ambassador in St. Petersburg informed Nicholas that Germany would mobilize if Russia did not cease all military preparations at once, including those it had previously assured Russia it did not see as a threat against Germany or cause for German mobilization. The German military attaché in Russia reported that the Russians appeared to be acting out of fear but "without aggressive intentions"... Nicholas at first ordered a general mobilization, and then after receiving an appeal for peace from Wilhelm cancelled it as a sign of his good faith. The cancellation of general mobilization led to furious protests from Sukhomlinov, Sazonov, and

Russia's top generals, all urging Nicholas to reinstate it. Under strong pressure, Nicholas gave in and ordered a general mobilization on 30 July.

Bethmann Hollweg was overjoyed upon learning of Russian general mobilization at 9:00 am on July 31, as it allowed him to present the war as something forced on Germany by Russia

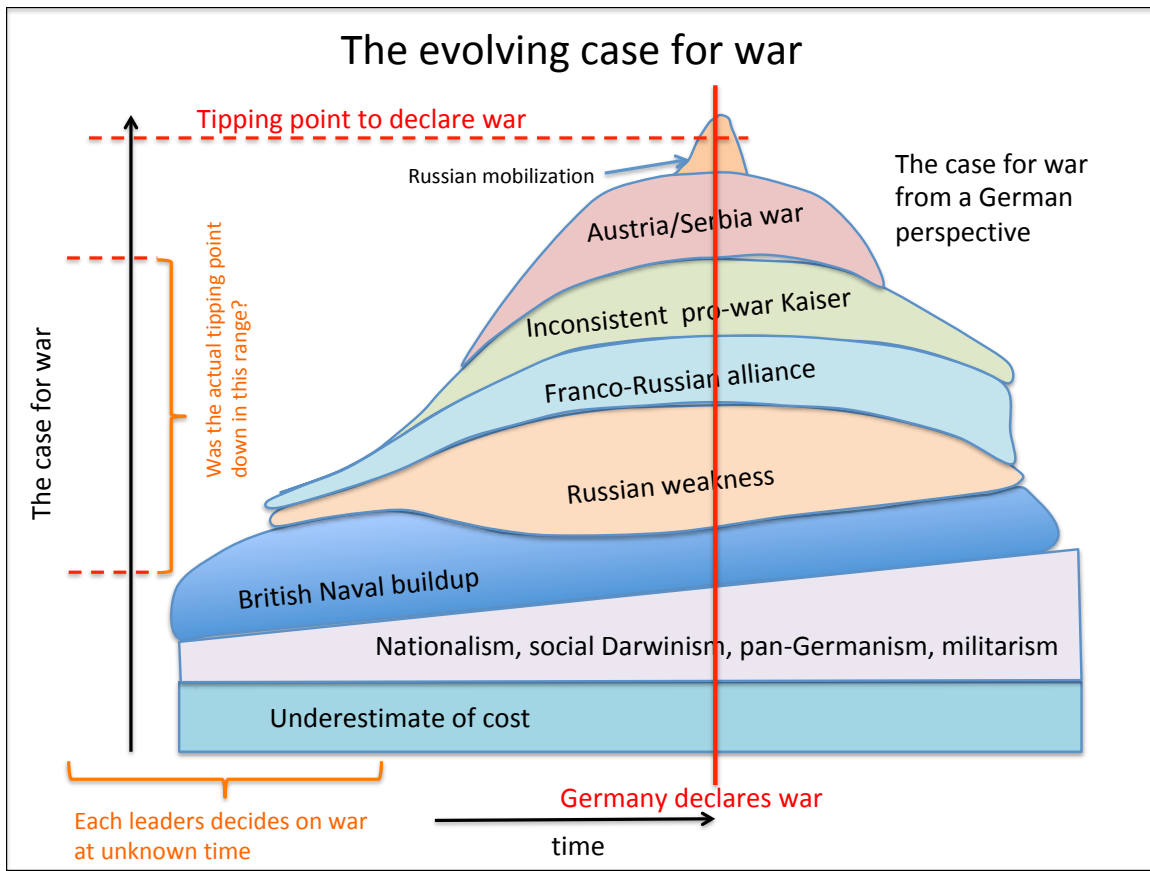
## **4. Toward the tipping point**

So far I've laid out a somewhat static view of the situation by describing the factors promoting war and those opposing it, but haven't described how they may have changed over time until the actual decision to declare war was made. But the system was dynamic so we need to do that. Did the various pressures for war slowly build until the Kaiser and company finally decided to declare it? Did some build faster than others? Was there one that finally tipped the situation?

### **4.1 Pro-war factors over time.**

The diagram below shows eight different colored bands each of which is a different reason why –in the minds of German leaders- they thought it desirable for Germany to go to war with Russia. The height of the overall stack of bands sums these separate reasons into a measure of their overall desire for war, and shows how it seems to have changed over time. In business terminology it's the 'business-case' for war. Here it's the political-case for war. The overall time from left to right is not really scaled but probably spans a few years. One could also look at this a wave of building pressures in favor of war.

The widths of the bands don't indicate what I feel was their relative strength or importance. Instead they are simply sized to allow room for the labels. However their changing width over time does indicate how I think their importance changed.



This diagram represents my interpretation of what I've read. It's admittedly crude but hopefully accurate enough to support the points I hope to make. Historians could surely improve the details by adding or subtracting bands, making their widths proportional to their importance in the eyes of decision-makers, and refining their shapes. Nevertheless I feel it's a valid and useful way to analyze situations like this.

Presumably in (more or less) business-case fashion the German leaders weighed the pros and cons frequently to see if the case for declaring war had changed from a net "no" to a net "yes". This would happen when the overall height of the envelope reached a tipping point. At that time they would declare war. This is of course a concept chart, and the tipping point where the answer turns from "no" to "yes" isn't known. I drew it where I judged it occurred, at the crest, where I drew a red line. Note that this is not when German leaders first decided that war was desirable, rather it was when they chose to declare it.

My reasoning for the inclusion and changing width of the bands is as follows. Historians seem of a mind in saying the great powers underestimated how damaging a war would be, and of course that made it seem more attractive and thus contribute to the case for war. I assume this remained constant over some decades before the war so I show the band as equal in width. Nationalism and militarism seemed to be increasing for decades so I show them as a long-period wave, or swell,

that was slowly building during the years prior to the war. German leaders were affected by these factors. The British naval buildup contributed to the forces containing Germany and thus their antipathy to such forces. However because the Naval race was over I narrow the band to show the Germans less worried about it. Russia's strength had been weakened by the war with Japan, but was starting to rebound. This provided an important window of opportunity (the bulging band) during which Germany felt it would be advantageous to attack a temporarily weak Russia. The Franco-Russian alliance created a new wave of pressure on Germany. At this point in time Germany had a ruler, the Kaiser who favored war with Russia. Except on the brink he got cold feet and was overridden by his pro-war ministers. (This sudden and short dip isn't shown in the diagram.) Finally, the Austrians made war on Serbia. The treaty between them required Germany to help Austria, which of course put them in conflict with Serbia's ally Russia, and also provided an excuse for war. The Russian mobilization was perhaps the final straw, especially since it evoked another and a most powerful motivator; namely fear.

I don't know if this coincidence of events can be called a perfect storm or perfect wave that increased Germany's leanings toward war past the breaking point, or not. But it's at least a framework to consider that possibility.

I show the crest of the wave receding, as do all waves, to suggest that if war had not been triggered when it was, then the factors promoting it may have diminished to the level it would not have occurred. The widths of the bands after war was declared are hypothetical but this is my reasoning for how I drew them. The strength of nationalism, etc. I assumed would continue to grow and lead to the extremes reached before WW2. Germany expected the Russian weakness to disappear as Russia recovered from its war with Japan so it would have gotten less attractive to attack them later on. I assumed the Franco-Russian alliance would continue. The Kaiser band tapers down because the next ruler might be less inclined toward war. The Austria-Serbia war would probably be over. Finally the Russian mobilization seems a one-time event.

Again I stress that this way of looking at things is my invention. One can argue with details such as the shape of the various bands. But I think this way of looking at things is useful, and generally correct.

#### **4.2 Tipping points:**

We have described a variety of factors that favored war and those that opposed it. We have said the ruling elite weighed these factors in making their decisions. The notion behind this diagram is that over time the case for declaring war, that is the perceived net merit for war, increased as the separate arguments in its favor accumulated or grew in perceived importance. When added together the case in favor of declaring war reached a critical level, a tipping point. The upper dotted line illustrates that tipping point, which was reached just as the Russians declared a full mobilization along the German border. At this point, on August 1<sup>st</sup>, 1914, the Kaiser



declared war on Russia. All the other countries entered the war like falling dominos, often due to treaty obligations.

But reality was more complicated in that the decision to go to war was made in the minds of the Kaiser and his key advisors well in advance of when they actually announced it. You will see frequent mention of this in the quotes. And although historians have noted dates where the Germans leaders expressed the desire for war well before it was declared, they apparently don't know exactly when each of them made that personal decision in his own mind. It may have never been revealed in a diary or recorded conversation. Nor do we know how many of the pro-war bands or pressures it took to make each individual favor war. Each may have had his own personal tipping point, perhaps going back many years. Nationalism, plus militarism and social-Darwinism may have sufficed. I've inserted orange markings to suggest the range of uncertainty in how high the envelope needed to be for all the leaders to have concluded war was desirable and when that might have happened.

## **5 Capsule summary**

What I've read seems to support this capsule summary of the core players and key moves made before the outbreak of WW1.

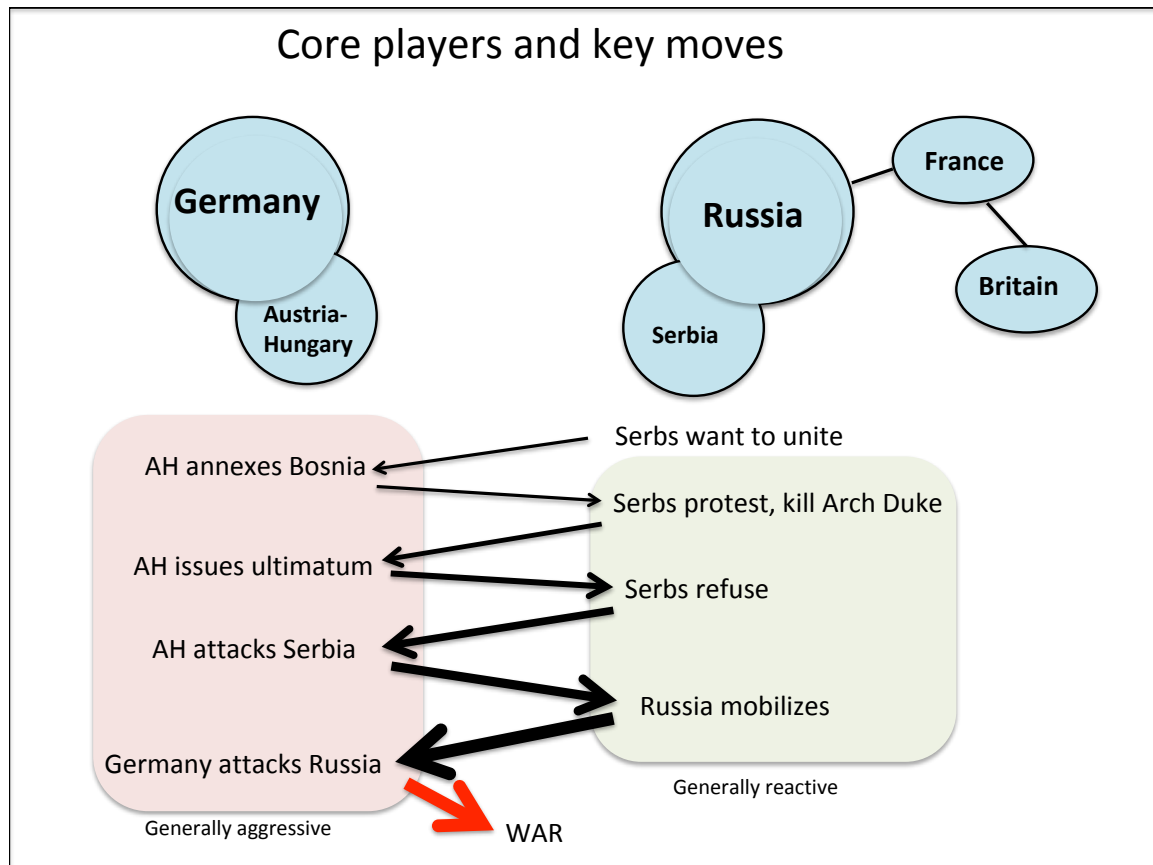
The decisions of the Kaiser and his immediate associates were the proximate cause of WW1. They were responsible for encouraging the Austrians to fire the first shots and the Germans to do likewise shortly thereafter.

The Kaiser and his key advisors each decided war with Russia was inevitable and desirable some years before they declared it in 1914. Between the time they reached their conclusions and August 1<sup>st</sup> 1914 they were simply waiting for the most opportune moment to start it. That moment came when they thought Russia was temporarily weak but going to get stronger as time went on, and when they felt they could blame it on someone else. This occurred when Russia came to aid of Austria-Hungary and especially when Russia mobilized.

I'm also inclined to believe that the fundamental driver toward war was some variation of social-Darwinism which caused the Germans to believe they were superior to other peoples and thus it was their right, mission and destiny to conquer and dominate them. If historians hold this view I've not seen it said directly in what little I've sampled of the literature. Instead historians often say Germany wanted its "place in the sun", which I take should mean to be taken as an equal with their neighbors. That seems understandable and only fair. It should satisfy Maslow needs for esteem and pride. However it does not imply dominating them. Simply put if one's aim is to dominate then attacking them must follow. There is no way for others to accommodate such a need. There is no possibility of compromise, or accepting one into a club of equals. In short, a widely held belief in some version of

social Darwinism may have been on of the most important causes of WW1. That's my current opinion, nothing more. However there is another way of thinking about the ultimate cause I'll offer later. I call it 'wrong-thinking'. Its also my opinion, and must rest on the logic I present to support it.

In my view the dynamics boiled down to the simple version in this diagram:



Germany and Austria-Hungary were essentially joined at the hip so what one did was essentially what the other did also. If one made war the other was partner. If one was attacked it was an attack on both. The same was true with Russia and Serbia. France and Britain were linked, but not at the initial core of things. Therefore, at first, the war was between the Germany/AH team and Russia/Serbia team.

The relationship between these two antagonists became an escalating tit for tat. One would exert pressure on the other and the other would respond with more pressure. The story starts somewhere back in history but I've chosen to start my diagram with the fact that Serbia had a historic goal of uniting all Serbs including the large number living in Bosnia. AH frustrated and angered Serbia by annexing Bosnia. (The first "tit".) In response Serbs fermented revolts, and two killed the Arch Duke. (The first "tat".) In response AH then wanted to put Serbia down and

teach them a lesson so the Germany/AH team gave Serbia an ultimatum they knew would be rejected. The Serbs did reject it thus escalating the standoff. The AH team then declared war on Serbia, but in reality it was the German/AH team declaring war on the Serbia/Russia team. Russia then mobilized to support Serbia, but for technical reasons also sent troops to the Russian German border. This caused Germany to declare war on Russia, or gave them an excuse to do so.

## **6: Conventional analysis**

This section addresses some important questions:

- what caused WW1 ?
- was it inevitable ?
- was it preventable ?
- was it predictable ?
- could it have been a perfect storm?

Much of what I offer here is my opinion either because I've not found experts to quote, its un-provable, or I haven't had time to build a solid case for it. Hopefully it will be thought provoking. In some cases – in the pressure to get this book done- I only have time for cursory statements.

I call this entire section a conventional analysis to contrast it with section 8, which attempts to see if the behavior of simple N-body spring/mass systems is analogous to the behavior of this N-nation geo-political system. If so it might provide a more basic –almost physics like- understanding of the latter's behavior.

### **6.1 What caused WW1?**

In section 3.3 I proposed that the immediate cause of WW1 was that Germany's ruling elite decided they wanted it. I then listed a dozen or so reasons why they wanted it; all mentioned by experts in WW1 history. Here I will develop a refining hypotheses: namely that each cause or reason was itself caused by other things that happened earlier. That's just one way to address the cause(s) of WW1, but that's the only one this section will attempt. I will use nationalism as my case example in support of this hypothesis.

**6.1.1 Why we should want to know?** Social beliefs and attitudes don't just spring up without reason, and its important to understand those reasons because they get closer to the ultimate cause of why decisions are made. I could have picked any one of the above-mentioned reasons (or causes) why German leaders decided on war to analyze, but for convenience I picked their belief in nationalism. An analysis like that to follow could be used on any of the others re WW1. More to the point it could be used to look at current political situations that have the potential to turn out badly if not handled intelligently.

Nationalism didn't just suddenly spring up without reason. This section draws on the literature in an attempt to identify those reasons. It finds that the proximate reasons didn't just spring up suddenly either. They were the result of things that happened even earlier. Any given belief or attitude has a complex root system of causes.

If we understand the causes of WW1 or any great social tragedy, and go back further in time to identify the causes of those causes, we may see some, along the line, that could have been defused thus changing the course of history. That is of course not possible for WW1 but I suggest a similar approach should be applicable today and help prevent future disasters.

**6.1.2 Causes of nationalism:** Nationalism is a well-recognized social belief or attitude and much has been written about it. Some is devoted to describing what it is, and when and where it occurred, while others seek to explain its fundamental causes.

Since nationalism is an attitude voluntarily adopted by individual humans it stands to reason such individuals believe it helps satisfy some of their personal needs.

In a compelling 1951 book, called *The True Believer*, Eric Hoffer analyzes the nature of mass movements like nationalism or religion and why individuals are attracted to them. His thesis is that people who join them no longer live in compact communities that satisfy the basic needs for belonging, or are otherwise frustrated with their existence. Joining a mass movement gives them a sense of belonging to something worthwhile, a purpose, and a hope that their lives will be better. If he is correct it suggests that the ultimate cause of nationalism is that people's basic Maslow needs are not being met by the environment they live in. But it's more complicated because we must delve deeper and address the reasons people have been separated from those compact, supportive communities or have those anxieties. Hoffer has some thoughts on that. They include urbanization, but then one must ask what caused society to urbanize. That takes one back to changes in technology and other factors. In short, the causes of nationalism –and no doubt other social beliefs and attitudes have causes, and those causes have causes. These chains of causality stretch back in time.

We note again that reality drives attitudes and attitudes drive reality. They co-evolve.

These are quotes from Hoffer's book. Note how often he links things to the basic physiological needs for esteem, pride, belonging, and purpose, as listed in the Maslow hierarchy of needs. The fact I give this so much space is my belief that social passions spring from basic, unmet human needs, and that social passions drive history.

“This book deals with some particularities common to all mass movements be they religious movements, social revolutions, or nationalist movements. It does not maintain that all movements are identical but that they share certain essential characteristics, which give them a family likeness. All movements however different in doctrine and aspiration drawl their early adherents from the same types of humanity; they all appeal to the same types of mind.

It is a truism that many who joined a rising revolutionary movement are attracted by the prospect of sudden and spectacular change in their conditions of life. A revolutionary movement is a conspicuous instrument of change ....

In the past religious movements were the conspicuous vehicles of change. In modern times the mass movements ...are revolutionary and nationalist. The fact that both the French and Russian revolutions turned into nationalist movements seems to indicate that in modern times nationalism is the most copious and durable source of mass enthusiasm.

It's worth finding out whether a probing of this desire (for change) might not shed some light on the inner workings of mass movements. We shall therefore inquire into the nature of the desire for change.

Success and failure are unavoidably related in our minds with the state of things around us. Hence it is that people with a sense of fulfillment think it is a good world and would like to conserve it as it is, while the frustrated favor radical change.

If the Communists win Europe and a large part of the world it will not be because they know how to stir up discontent or how to infect people with hatred, but because they know how to preach hope.

For men to plunge headlong into an undertaking of vast change they must be intensely discontented...

Their (i.e.: the true believers) inner-most craving is for a new life -a rebirth- or, failing this, a chance to acquire new elements of pride, confidence, hope, a sense of purpose and worth by identification with a holy cause. An active mass movement offers them opportunities for both. If they join the movement as converts they are reborn to a new life in it's close-knit collective body, or if attracted as sympathizers they find elements of pride, confidence and purpose by identifying themselves with the efforts, achievements and prospects of the movement.

There is no doubt that in exchanging a self-centered for a selfless life we gain enormously in self-esteem.

When people are right for a mass movement they are usually right for any effective movement and not solely for one with a particular doctrine or program.... Since all mass movements draw from the same types of humanity and appeal to the same types of mind, it follows that all mass movements are interchangeable. One mass movement readily transforms itself to another. A religious movement may develop into a social revolution or a nationalist movement.

It is well for those who hug the present and want to preserve it ...not to play with mass movements. For it always fails ill with the present when a genuine mass movement is on the march.

Emigration offers some of the things the frustrated hope to find when they join a mass movement, namely change and a chance for a new beginning.

Unless a man has the talents to make something of himself freedom is an irksome burden. Of what avail is freedom to choose if the self be ineffectual? We join a mass movement to escape individual responsibilities, or, in the words of the ardent young Nazi, "to be free from freedom". Had they not joined the Nazi movement in order to be free from responsibility?

They who clamor loudest for freedom are often the ones least likely to be happy in a free society. The frustrated oppressed by their shortcomings blame their failure on existing restraints. Actually their innermost desire is for an end to the "free-for-all". They want to eliminate free competition and the ruthless testing to which the individual is continually subject in a free society.

A rising mass movement attracts and holds a following not by its doctrine and promises but by the refuge it offers from the anxieties, barrenness and meaninglessness of an individual existence. It cures the poignantly frustrated not by conferring on them an absolute truth or by remedying the difficulties and abuses which made their lives miserable, but by freeing them from ineffectual selves- and it does this by enfolding and absorbing them into a closely knit and exultant corporate whole

The National Socialist movement... won out over all the other folkish movements ...in the 1920s because of Hitler's early recognition that a rising mass movement can never go too far in advocating and promoting collective cohesion. He knew that the chief passion of the frustrated is "to belong", and there cannot be too much cementing and binding to satisfy this passion.

A somewhat similar situation is to be observed in the rise of nationalist and socialist movements in the second half of the 19th century: "the extraordinary mobility and urbanization of population served to create during these decades an extraordinary number of... persons uprooted from ancestral soil and local allegiance. Experiencing grave economic insecurity and psychological

maladjustment, these were very susceptible to demagogic propaganda, socialist or nationalist or both”.

The man just out of the army is an ideal potential convert and we find him among the early adherents of all contemporary mass movements. He feels alone and lost in the free-for-all of civilian life. The responsibilities and uncertainties of an autonomous existence weigh and prey upon him. He longs for certitude, camaraderie, freedom from individual responsibility, and a vision of something altogether different from the competitive free society around him -- and he finds all this in the brotherhood and the revivalist atmosphere of a rising movement.

The ideal potential convert is the individual who stands alone who has no collective body he can blend with and lose himself in and so mask the pettiness, meaninglessness and shabbiness of his individual existence. Where a mass movement finds the corporate pattern of family, tribe, country etc. in a state of this disruption and decay, it moves in and gathers the harvest’

As one would expect a disruption of the family whatever it’s causes fosters automatically the collective spirit and creates responsiveness to the appeal of mass movements”

Here is another treatment of the personal reasons people embrace nationalism. It’s from: <https://www.theatlantic.com/health/archive/2014/03/the-everyday-psychology-of-nationalism/284188/>

“The ideology of nationalism has a complex history, originating in early-modern Europe and evolving in myriad ways as it’s spread throughout the world. Today nationalism can be civic, ethnic, or a combination of the two, but all nationalists “carry strong attitudes and beliefs about their own people and about others, who feel their attachment to their nation passionately, and who even, at times, act with great cruelty against their enemies,” according to Joshua Searle-White in his book *The Psychology of Nationalism*. This us-versus-them mentality and its negative effects have been well examined from a political and historical standpoint, but surprisingly few have studied its psychological roots. From a social-psychological perspective, nationalist sentiment is thought to stem from two main points: attachment and identity.

Basic cognitive development theories, like those of Jean Piaget, suggest that children undergo a socialization process that moves from the egocentric to the sociocentric, as they build attachments to groups to fulfill their basic human needs. According to [an essay](#) by Daniel Druckman, “At the level of the nation, the group fulfills economic, sociocultural, and political needs, giving individuals a sense of security, a feeling of belonging, and prestige.” Numerous theories from psychologists like Freud and Maslow agree that the need to belong is a



fundamental human motivation; national attachment can fulfill that need and help individuals construct their identity.

Henri Tajfel's social identity theory suggests that a person's identity is based in part on his or her group, so a group's status and importance affects the individual's own. In other words, you want to view your nation as being superior to others to increase your own self-esteem, creating "in-group favoritism" and "out-group devaluation" (example: the classic "U! S! A!" chant).

"I would argue that we human beings have a constant need to improve our sense of ourselves. The easiest way to do that is to compare ourselves to others—and see 'us' as better than 'them'," says Searle-White, a professor of psychology at Allegheny College. Yet some countries seem to inspire more group loyalty than others. There are many theories, none concrete, for why this is, but it seems to depend on historical, cultural, and situational context.

Some psychologists theorize that a nation's size and military power, as well as past military conflicts, have the greatest effect on nationalistic tendency. Druckman, a professor at George Mason University and a scholar at Macquarie University in Sydney, suggests that people in smaller countries who feel threatened by neighbors and are less well-equipped to handle attacks are more prone to nationalism. The constant threats and feelings of insecurity at a national level seep down to the individual—is my country strong enough?—and since people draw self-esteem and status from their country, a common reaction is to lash out against feelings of inferiority by displaying a sense of superiority."

This is a quote from a speech Charles Lindbergh –a famous aviator, but also a Nazi sympathizer- gave on April 23, 1941 in New York. Note the nationalist term "America First". Source: America in Color, TV documentary circa 2018.

"France has been defeated and now despite the confusion of recent months it's obvious that England is losing the war. I've been forced to the conclusion that we cannot win this war for England regardless of how much assistance we send it. That is why the America first committee has been formed."

For more on the psychological attractions of nationalism see:

<https://encyclopedia.1914-1918-online.net/article/nationalism>

[http://webs.bcp.org/sites/vcleary/modernworldhistorytextbook/wwi/section\\_2/nationalism.html](http://webs.bcp.org/sites/vcleary/modernworldhistorytextbook/wwi/section_2/nationalism.html)

[https://link.springer.com/chapter/10.1057/9780312299057\\_6](https://link.springer.com/chapter/10.1057/9780312299057_6)

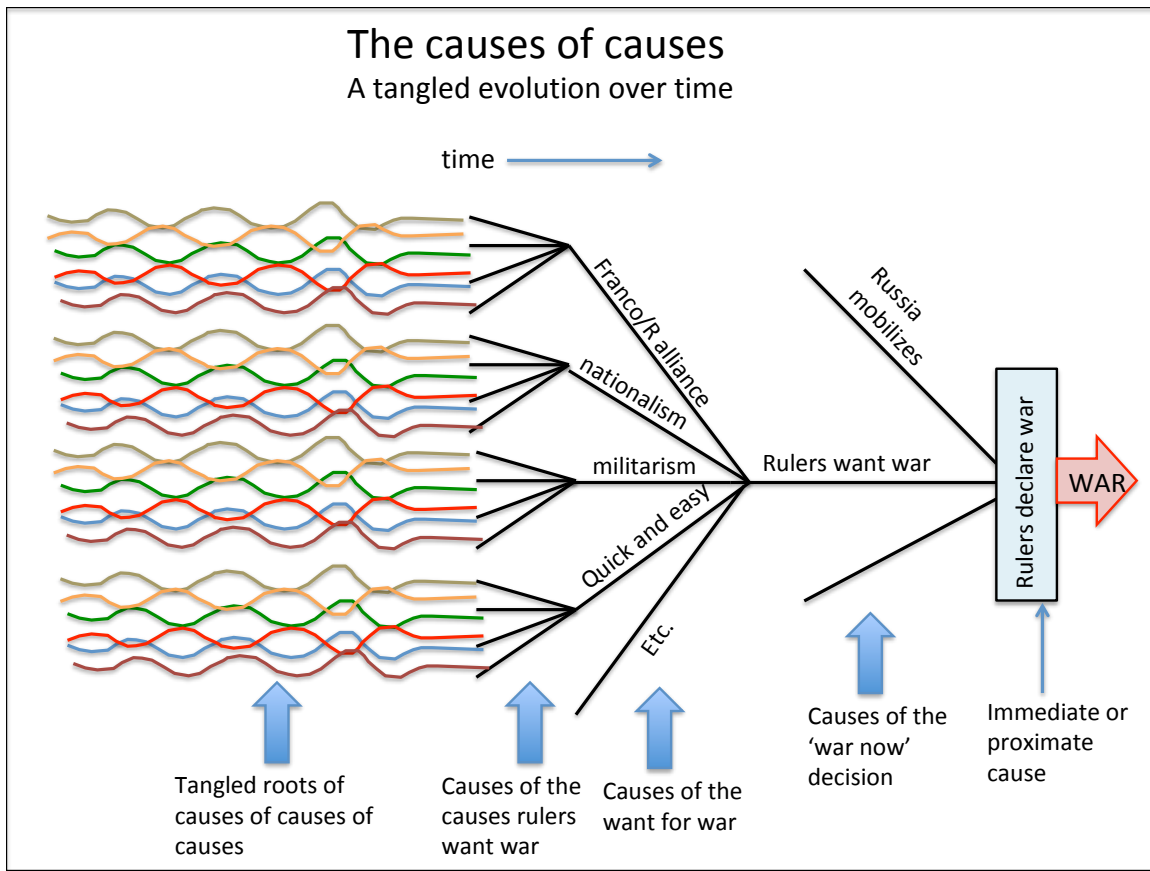
[https://link.springer.com/chapter/10.1057/9780312299057\\_5](https://link.springer.com/chapter/10.1057/9780312299057_5)

In simple summary, it seems the causal chain leading to nationalism involved these environmental changes that affected people psychologically:

- The unification of small German speaking states into one nation helped produce a feeling that those involved had a common identity.
- Technical advance and prosperity fostered a pride in country
- New railroads and roads integrated the economy and fostered better awareness of the whole.
- Industrialization attracted people to cities where they lost the feeling of belonging they had in the smaller communities and families left behind. This, in turn, was caused by technology advances and other factors.
- Everything was changing making life uncertain and threatening. Seeking something to identify with or belong to, some flocked to nationalism.

### **6.1.3 The complex roots of causality**

Now that we have shown that just one reason (ie: nationalism) that German rulers wanted war has its own complex set of causes, and causes of those causes, it follows that each of the other reasons they wanted war probably also had multiple causes. This diagram attempts to illustrate that situation.



We read this chart right to left thus going back in time. As noted multiple times already, the German ruling elite declaring war was the immediate cause of it. There were several reasons for, or causes of, that decision, which included the fact that they had previously wanted war. So Russia's mobilization was just a contributing reason they decided to declare it when they did. (Refer back to the wave diagram.) If one looked no further one might say those were the causes of war. But then there were apparently multiple reasons why they wanted war in the first place; nationalism being one of them. (Refer back to the Case for War chart).

The section just above found that there were multiple causes of nationalism, which I illustrate with four radiating black lines. There was no space to label each line. Nor is it necessary since the point here is just to show the concept of multiple causes behind each cause. If one looks at all the potential causes of nationalism, such as German unification, improved transport, emergence of national literature, and urbanization, one realizes that all those occurred for still earlier reasons. The tangled colored lines are simply meant to suggest that all of these reasons for reasons probably interacted with each other in complex ways that would be near impossible to understand. A changing reality bred changing beliefs and attitudes, and vice versa. They co-evolved. Perhaps in a way analogous to how different species co-evolved in nature to fit with their local environment and each other.

**The payoff:** If this is an accurate way to describe causation then it's generic and useful. It would apply to the geopolitical system today and to impending conflicts. The real payoff from this view is that by examining the root causes of current disputes one might identify those that could be eliminated, thus reducing tension and the potential of serious conflict in future. For example we might find some way to satisfy the Maslow needs for pride and belonging by attracting people to something other than social passions like nationalism and racism. Put another way there are dangerous harmful ways to satisfy basic needs like pride and belonging, and benign alternatives, like sports.

Here, as I write in a moment of enthusiasm, it seems that this –hopefully useful– insight is one reason it's been worthwhile to write about systems, and what causes them to behave as they do.

#### **6.1.4 The fundamental cause of WW1:** Now to the bottom line.

In my view the fundamental cause of WW1 was wrong-thinking.

The meaning of this term isn't obvious but it's the best two-word summary I can think of to represent a complex mental situation, which I will explain shortly. I could have chosen terms like fuzzy, confused or misguided thinking, or even invented a term like 'mental syndrome X'. But I feel the core of the problem was the way leaders thought, and since it resulted in war it was clearly the wrong way of thinking.

There are two steps to what I mean by wrong-thinking. First, preoccupied by tactical thinking, it never even occurred to the ruling elites, especially in Germany, to think consciously about the mindsets, beliefs, and attitudes driving them toward war, and second, that –having failed to do so– it never occurred to them to take the further step of trying to find less harmful ways to satisfy the basic human needs that were the origins of those mindsets, beliefs and attitudes.

Clarks book title "The Sleepwalkers" hints at this because he apparently concluded the ruling elites stumbled blindly into war without consciously realizing what they were getting into or why. It clearly lays the blame on thinking, or more particularly on lack of same.

I blame the war on the imperfect way leaders thought because there were no structural or physical reasons leading to war in any "mechanical" sense. It was an invention of the mind. The nations of Europe were at peace. Germany was reasonably prosperous and becoming more so, as was the rest of western Europe. There was no famine, no great natural disasters, no mass migrations, no pandemics, no riots or uprisings, that might have precipitated war. Instead war occurred because populations and their leaders were not thinking correctly. If they had been

thinking correctly it would not have happened. If they had found better ways to meet those needs and resolve those anxieties war would not have happened.

Fundamentally in my view leaders were preoccupied by the day to day considerations and it never occurred to them to sit back and think deeply about the factors or pressures that were impelling them, their staffs, and the public in that direction. Had they done so they would have hopefully discovered that nationalism, militarism, etc. were driving them in that direction, and then dug deeper to understand why those attitudes and beliefs had developed in the first place. If so they may have discovered that they stemmed from basic unmet needs for pride, esteem, etc. as described in the Maslow hierarchy. Had they gotten that far they may have taken the final and most important step of finding other ways to meet those needs that were less likely to participate war. Obviously this would have needed to be done at least months and probably years before the outbreak of war. Let me get more specific.

In my view nationalism and the push for a recognized place in the sun had become the undesirable vehicles -or ways or strategies if you will- chosen, mostly unconsciously, to help satisfy the basic human needs for pride, esteem, and so forth. Belonging to a military unit -as anyone who has done so knows- helps satisfy the needs for companionship, belonging, excitement, and identification with an important cause larger than one's self. As a kid I know that shooting a rifle makes one feel powerful. As a former Naval officer I know that wearing a uniform feels good and engenders pride. Thus militarism became a vehicle to satisfy those basic needs. The German's very real industrial, economic, cultural, military, artistic, and scientific achievements gave them just cause for pride, but if carried too far led to a feeling of superiority and perceived Darwinian mission to dominate those less fit. The desire to establish colonies brought Germans into competition with other nations thus converting them into enemies. In addition the leaders may have had an unhealthy level of desires for power or control. They probably found playing with grand strategies and directing armies quite satisfying.

In sum, the unspoken assumption, - apparently widespread in the population and leadership- was that all these vehicles and attitudes -like nationalism and militarism- were the correct way to meet basic human needs. The war was a product of this improper way of looking at things, this 'wrong thinking', not the physical realities within Europe.

Indeed the assumption was not the result of conscious thinking at all. It was not as though individual citizens and individual leaders actually sat down and said: 'our people have these unmet psychological Maslow needs and we need to find a way to meet them'. Had they done so they might have thought of alternatives. Instead they drifted into the adoption of these harmful vehicles subconsciously, or because it didn't occur to them that they should think explicitly about these things at all.

This wrong thinking was not just confined to Germany. National leaders in other countries should have been aware of these social needs in Germany and sought ways to help satisfy them in some cooperative way. They should have met with German leaders to acknowledge the legitimacy of such needs, and then to see if they could be helpful in meeting them in a constructive fashion.

The consequence of this wrong thinking was that 20 million people died.

Were they right about the vehicles they drifted into using? No, it seems WW1 wasn't the solution since many of the same vehicles -like nationalism and militarism- arose again to start WW2. Granted the poor economic situation between WW1 and WW2 was a serious problem as well. Beside damaged pride there was hunger and desperation.

**So what?** In my view this explanation for the ultimate cause of WW1 is highly relevant today because we are again facing a somewhat similar geo-political situation brought on mainly by the rise of China, but also by still unmet needs for jobs, pride, etc. in a number of countries. Danger signs, like nationalism and protests over unemployment and lack of opportunity are again appearing. We need to learn from the WW1 experience how to prevent another societal disaster. We need right-thinking from now on.

## 6.2 Was it inevitable?

Just a few quick thoughts on this question

**YES**, if Germany was willing to invade Russia to gain territory. If that were the case it may have been only an issue of time when it happened, that is when circumstances were favorable. Could the leaders have gotten bull-headed or fixated on success and just ignored the price? The fact that Hitler invaded Poland at least partly for "acquisition of "living space" ([Lebensraum](#)) suggests this rationale was possible.

[https://en.wikipedia.org/wiki/Causes\\_of\\_World\\_War\\_II](https://en.wikipedia.org/wiki/Causes_of_World_War_II)

**YES**, if German leaders wanted war for other reasons, and, again, were willing to ignore the costs.

**NO**, if the Kaiser and his three key lieutenants had changed their minds and strongly resisted it.

In theory they could have done so but how could that realistically happen? First, their entire mind-set was a product of their education, interaction with peers, culture, mental models, and information they had available at the time. Given that, one could argue their decisions were perfectly consistent with those influences and thus rational. They could not step outside themselves

and know something more or different. They didn't know any better, nor could they have. They did what they were programmed to do, and so who could blame them? Second, its doubtful they would have been selected for those offices had their views been very different from their boss, their peers, their staffs, and their culture. If it wasn't Bethmann, it would have been a functional equivalent.

**YES**, because there was nothing that France, Russia, Britain could have done to stop the movement toward it, except submit to whatever Germany wanted to do. They were victims.

If France had not aligned with Russia it would have perhaps reduced the threat to Germany making them less motivated to react to it. But on the other hand it would have reduced the perceived cost of war with Russia since they wouldn't be forced to fight France as well. Perhaps these mostly cancel out. If so the alliance had little effect on Germany's "business case" for war.

**NO**, if Germany had not yet united, was weak, and had no ambitions. But she did and that pressured everyone else.

**YES**, the broad deep and powerful currents of nationalism and some form of social-Darwinism made it inevitable.

**NO**, if nationalism etc. had not become strong motivators.

**YES**, if war was thought inevitable then there was no decision to make, god or fate had already made it, it was just a question of the best timing.

**NO**, if national leaders, especially in Germany had adopted "right-thinking" years earlier and been able to implement what it suggested.

### **6.3 Could it have been prevented?**

Could any action taken by anyone outside Germany have prevented it? This is almost the same question as above.

**NO**, I can think of none that were at all realistic close to the event.

**Maybe**, if other nations had worked well in advance to discuss the situation with Germany, emphasize the potential harm, welcome them to the club, get friendly with their officials, and so forth. Maybe, just maybe. In other words they might have prevented it by right thinking as opposed to the "wrong thinking" described above. But they would have needed to find the right strategies years in advance.



## 6.4 Was it predictable?

We need to distinguish between short term and long term prediction.

A few weeks ahead:

**Maybe**, if other nations knew that German leaders had already made up their minds to wage it.

**Maybe**, if other nations knew that once a hostile standoff like this started - with Austria's ultimatum- it was bound to escalate like a series of ever stronger bluffs until the last protagonist refused to chicken out and the inevitable next step was to attack.

**Maybe**, if it's like a game of chess where the protagonist's moves can be predicted several steps ahead. Consider this scenario, which starts with Serb nationalists killing the Arch Duke. That's now a known and the challenge is to predict what will follow. One might estimate there's a 60% chance that AH will issue an ultimatum to Serbia, a 95% chance they will reject it, a 95% chance AH will attack Serbia if they do, a 60% chance that Russia will mobilize along the German border, and an 85% probability that Germany would declare war if they did. (my percentages are just for illustration)

Further ahead:

**Don't know.** It was possible to see Germany getting stronger economically and militarily, to see the prevalence of passions like nationalism, and to see how they were trying to form an empire like other great nations. These all suggest it would struggle to elbow its place in the sun, at least to become as influential as its peers. Elbowing implies shoving others aside. With my limited knowledge I can't say whether this struggle for a place in the sun would inevitably lead to war. (Since WW2 Germany has obviously found other ways to have its place in the sun.) However if other nations knew Germans were obsessed with a believe they were superior and thought they should dominate those less fit, then that would have been a good advance predictor of war to follow.

These thoughts are worth considering today since China is clearly powerful, its ruling elite surely has a unified strategy, and it now seeks its deserved 'place in the sun'.

**Yes**, at least the wars overall severity could have been predicted well in advance. If one had mapped all the treaties and friendships and all the hostile relations, one could have seen the system was fragile in that, if war broke out in one place, it was likely to spread to involve other nations and cause great harm.

**Probably not.** The system was so complex that even today it would be impossible to model it in a computer and predict its behavior, unless it were possible to identify and model the evolution of just a few, large, interacting “parts” or aspects of the system and get good results in predicting –at least the probability of- large events like war.

## 6.5 Was it a perfect storm?

A perfect storm implies the rare, but simultaneous, occurrence of several different things that combine to create a much stronger impact than any one would deliver by itself. The term was popularized by the story about a deadly storm off New England in 1991. [https://en.wikipedia.org/wiki/The\\_Perfect\\_Storm\\_\(film\)](https://en.wikipedia.org/wiki/The_Perfect_Storm_(film))

In the ocean, and in electronics, waves coming from different sources can be superimposed so the heights of each wave are summed. If the crests of several waves pass the same point at the same time the resulting crest, that lasts only a moment, is particularly high. A so-called perfect storm in nature would be one where weather fronts, pressure zones, and wave patterns all combine to create very high waves and/or very intense winds. Dr. MacMillan suggested that WW1 might be a perfect storm within the geo-political system of the day. (Hear her saying so at T=5:40 in her lecture at : <https://www.youtube.com/watch?v=uWDJfraJWf0> ) That idea is appealing. The occurrence of spikes in dynamic N-body systems also hints at such a possibility.

One definition of a perfect storm is that a number of harmful things, unrelated to each other, happen to occur at the same time and sum-up to cause a disaster. It would resemble being hit by a rogue wave. One example might be an aircraft brought down because the pilot just happened to be tired, at the same time one engine failed, the weather was bad, and some instruments failed. A very unlikely, freak occurrence. In the case of Germany several pro-war influences may have been unrelated: the fact that Russia was getting stronger, German nationalism, and the fact that war was thought to be quick and easy come to mind.

Another definition of a perfect storm envisions a number of related forces coming together. The wave diagram presented earlier showed such a situation. Things, like nationalism, militarism, and threatening alliances, the assignation of the Arch Duke all seem related. The appealing notion behind this kind of perfect storm is that N-body simulations suggest its an intrinsic characteristic of how a dynamic system comprised of multiple interacting parts will behave. It's not an accident. Its something one can expect will happen sooner or later, albeit its timing will be unpredictable. There's more on this in Section 8.

In short, part of the reason Germany declared war may have been something of a perfect storm; that is being hit by multiple pressures or opportunities at once.

## **7: Thoughts on preventing future disasters of this type**

### **7.1 Recommendations**

This section is a follow-on from my conclusion that “wrong-thinking” was the fundamental cause of WW1. Basically Germans would have had to think of and implement better vehicles or strategies to meet basic needs than the ones they fell into. This idea and the remedies below probably apply to potentially dangerous geo-political developments today. To do this we need to analyze each need and try to identify remedies. That’s a sophisticated task best addressed by an unusual team; namely an interdisciplinary one comprised of psychologists, sociologists, economists, aid-workers, and of course historians to say what didn’t work before.

Being none of those let me nevertheless suggest the following:

- implement ‘right-thinking’, which fundamentally means periodically assessing how well all the different Maslow needs are being met across society, making sure that that beneficial, not destructive, ways to meet them are being used, and finally that social pressures are not building from needs not fully and equitably met across all segments of society. This is the same thing as monitoring the performance of the societal system to see if it is fulfilling its mission, which is the reason it was created in the first place. (as discussed in a previous chapter about the origin of societal systems)
- support sports, including national teams, that help satisfy the needs for belonging (to the fan set), entertainment, and excitement. Maybe even pride.
- encourage joining organizations that serve the disadvantaged, which addresses meaning and esteem
- implement local and national programs to provide jobs, especially meaningful jobs, address insecurity, which relates back to the basic Maslow needs for shelter and food, and also pride and esteem.
- emphasize the negative aspects of racism, and any form of social Darwinism in schools, as it creates a win-loose situation that ultimately leads to conflict
- teach the reality of psychological needs –as listed on the Maslow hierarchy- in schools, and the need to address them
- make sure the military doesn’t actually want war (because they think its exciting)

-implement programs that hire people or attract volunteers to address real global problems -like climate change- because such jobs allow participants to identify with some noble cause greater than them selves.

- elect leaders who stress the global needs for fairness, equality, sustainability, and that we are all in a finite world together. Their goal should be a harmonious society worldwide. Leadership is key, and its far from ideal today.

- involve historians, psychologists, and sociologists in setting national strategy, which should increase attention on underlying problems and alternate strategies for meeting them

- create a national strategic planning agency within some larger agency like OMB that would look at basic problems facing society, then produce and evaluate a range of alternate strategies. It would not set policy but rather provide alternatives for consideration by national leaders. It would encourage them to think explicitly and systematically rather than rely on gut feel or political pressures. It would be an alternative to what appears a chaotic, short-sited, myopic 'process' today. Of course all nations should do likewise.

-somehow convince nations that trying to gain hegemony over, and especially physical possession of, territories outside their existing border isn't helpful in achieving a harmonious society worldwide. They need to be content with where they are, and respect the wishes of people in those territories. (Taiwan and the Kurdish people come to mind.)

- use ideas like the above prevent strong frustration from building in a society because it may vent poorly.

I recognize that these seem idealistic, but does anyone have better ideas for addressing the unmet needs that drive conflict? I also recognize that most my ideas are not new and some are already being at least partly implemented. It's also the frequent case, that rather than trying to actually satisfy unmet needs, those in power simply suppress those complaining. This of course opens into a more complex discussion of whether there are actually enough resources to satisfy those needs, and who pays.

## **7.2 Evidence of similar situations today**

One need only watch the TV news, read the papers, or peruse well researched magazines like the Economist to see the current frustrations stemming from unmet needs, and some of the dangerous ways -like nationalism- that some people and some leaders are pursuing to address them. Consider these recent quotes:

This is from an LA Times article called Multilateralism remains crucial to global stability, as printed in Sonoma County's Press Democrat newspaper, December 7, 2018

“Within the span of a quarter century ancient rivalries and simmering tensions propelled the major nations of Europe into devastating wars that eventually embroiled so many states that they became known as the first world wars.

At the end of the first of those conflicts -100 years ago last month- the United States and other nations sought to create an international body through which they could mediate disputes and avoid future wars. The League of Nations didn't work out, as nationalism once again trumped internationalism and the globe descended into World War II. Out of those ashes in 1945, the nations of the world tried again to create a series of international mechanisms to increase cooperation and enhance dialogue, seek solutions to global problems and reduce the chances of yet another all-consuming war. That effort has been in the main successful.

Which is why it is so troubling that Secretary of State Mike Pompeo, in a speech in Brussels on Tuesday, question the value of international institutions, singling out for criticism the United Nations. .... But surely the goal should be to strengthen these organizations and fix their problems rather than to weaken or abandon them in favor of some ill-defined, narrow and parochial modern-day nationalism.

...Brexit arose as part of an ominous global move toward nationalism. It is likely to be as detrimental for the people of the United Kingdom as it is for others in the UK.

Pompeo said, somewhat paradoxically, that President Donald Trump, who has also criticized global institutions and multinationalism, is “returning the United States to its traditional, central leadership role in the world” by embracing an America First brand of nationalism.

Multilateralism is rooted in the belief that the more connected are the nations of the world, the less likely they'll be to turn their weapons on each other. That makes as much sense today as it did 70 years ago when much of Europe lay in ruins.”

From an article called France protests reveal deep frustrations, in Press Democrat December 7, 2018

“French president Emmanuel Macron likes to present himself to the world as the suave centrist who can hold the line against the anger of the fringes. But at home

he's a politician under siege, at risk of being overwhelmed by a growing rebellion.

The roots of their anger are rising diesel prices and a new gasoline tax... But the protests are tapping into much deeper frustrations among a segment of the French public. They have prompted calls for a greater social safety net at a time when France still finds itself in a rut of sluggish growth and high unemployment. And the passions unleashed by the demonstrations may prove difficult to tamp down.

The roots of the protest also lie well outside France's wealthy urban centers... in the rural foothills ...locals saw the new tax as a particularly hard blow to their livelihoods. ...in south-central France he encountered the stagnation, neglect and disaffection that has come to characterize provincial life. It is not the poverty but ever present unease in the small cities, towns and villages over what is becoming known as 'the other France', away from the glitzy Parisian boulevards. ... 'in these territories marked by the absence of a tomorrow there is a form of postindustrial despair that's now gnawing at the middle and working classes who suffered the brunt of the brutal crisis of 2008 and the ensuing budget cuts.... Faced with austerity city counselors must always do more with less and less all while facing the growing discontent of their constituents.

The cracks that are widening in France and the post-industrial despair entrenched in the provinces would seem familiar to Americans, Britons and others and Western democracies.

Macron's political enemies have seized upon the disturbances... 'We are in a situation that is almost insurrectional'... Another right-wing hardliner associated with the protest movement provocatively urged Macron to resign in favor of a caretaker government led by a former general.

... she continued. 'French history is full of revolutions overtaken by even more radical revolutions, but the speed with which these changes happen now is breathtaking'.

...he has failed to head off the far right which cares little for his worthy internationalism, or persuade those on the left to see him as an agent of the rich.

The president speaks 'about the end of the world' one demonstrator told Le Monde 'while we talk about the end of the month'.

Unfortunately a frequent response to protests stemming from unmet human needs is to suppress them by force.

From New York Times article in Press Democrat December 9, 2018

**"Paris** A fourth weekend of antigovernment protests in France turns violent again Saturday with demonstrators in Paris burning cars and ripping down

barricades from store fronts while the riot police fire tear gas and water cannons to control the crowds ... nearly 1400 people were arrested nation wide... This huge police presence in the capital appeared far more able to contain the violence .... But that did not quell the outrage, which has morphed into much broader anger at Macron's economic policies, and France's declining living standards.

As to nations seeking their place in the sun, the main concern now is China. Rather than using conventional war, the struggle has shifted to 'economic war'.

From **Opinion** Piece in Press Democrat December 8, 2018

**The real trade war with China** If you scan the headlines ...you would think the US-China trade war is mainly about tariffs....but the startling arrest in Canada of a Chinese telecom company executive should wake people up to the fact that there's a second US China trade war going on - a much more stealthy conflict fought with weapons much subtler and more devastating than tariffs. And that prize in that other struggle is domination of the information technology industry.

...in fact, more systematic efforts to block Chinese access to US components are in the works .... a second weapon in the high tech trade war is investment restrictions. The Trump administration has greatly expanded its power to block Chinese investments in US technology companies... The goal of investment restrictions is to prevent Chinese companies from copying or stealing American ideas and technologies. Chinese companies can buy American companies and transfer their intellectual property overseas or have their employees train their Chinese replacements. ...the high tech trade war shows that for all the hoopla about manufacturing jobs ... the real competition is in the tech sector.

## **8: N-body analysis**

Most readers may choose to skip this section since it's a somewhat technical and only partly successful attempt to relate the behavior of physical N-body systems to the geo-political system we have been discussing.

### **8.1 Review of physical N-body systems**

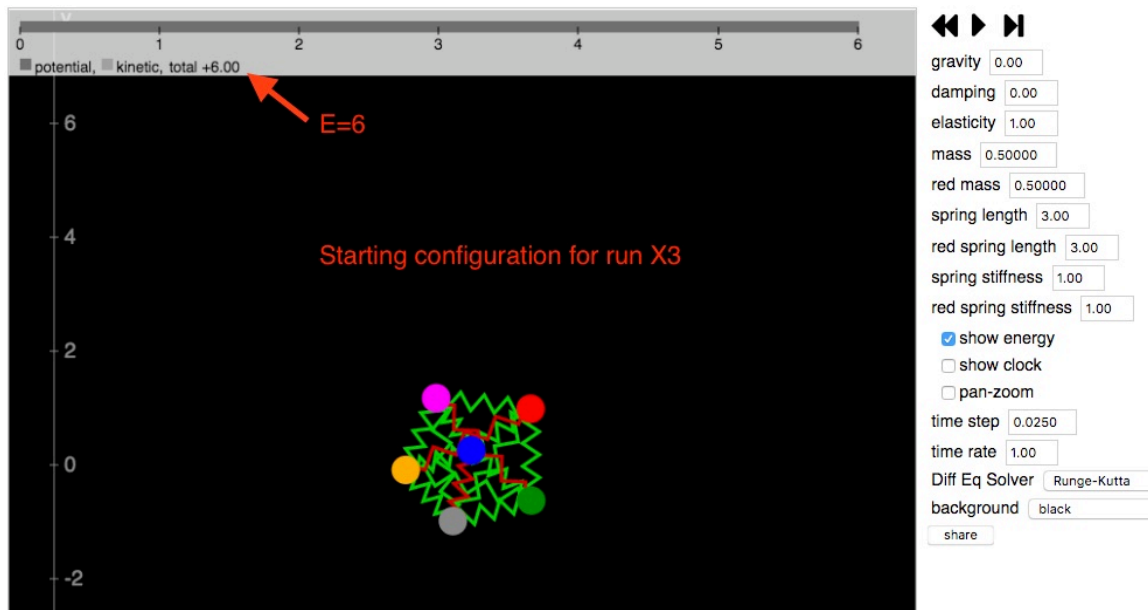
By way of review, physical N-body systems can be as simple as little masses connected by springs. When disturbed the masses or bodies vibrate in certain ways and end up settling into different equilibrium configurations or states.

The dynamic behavior of N-body systems (and other systems like the atmosphere) are simulated in computers. The status of the system at any given time becomes a frame in a video of that behavior that can be watched later. The computer applies the laws of physics to predict how the situation in one frame will evolve into the situation in the next. The frames may be fractional-seconds apart in small systems,

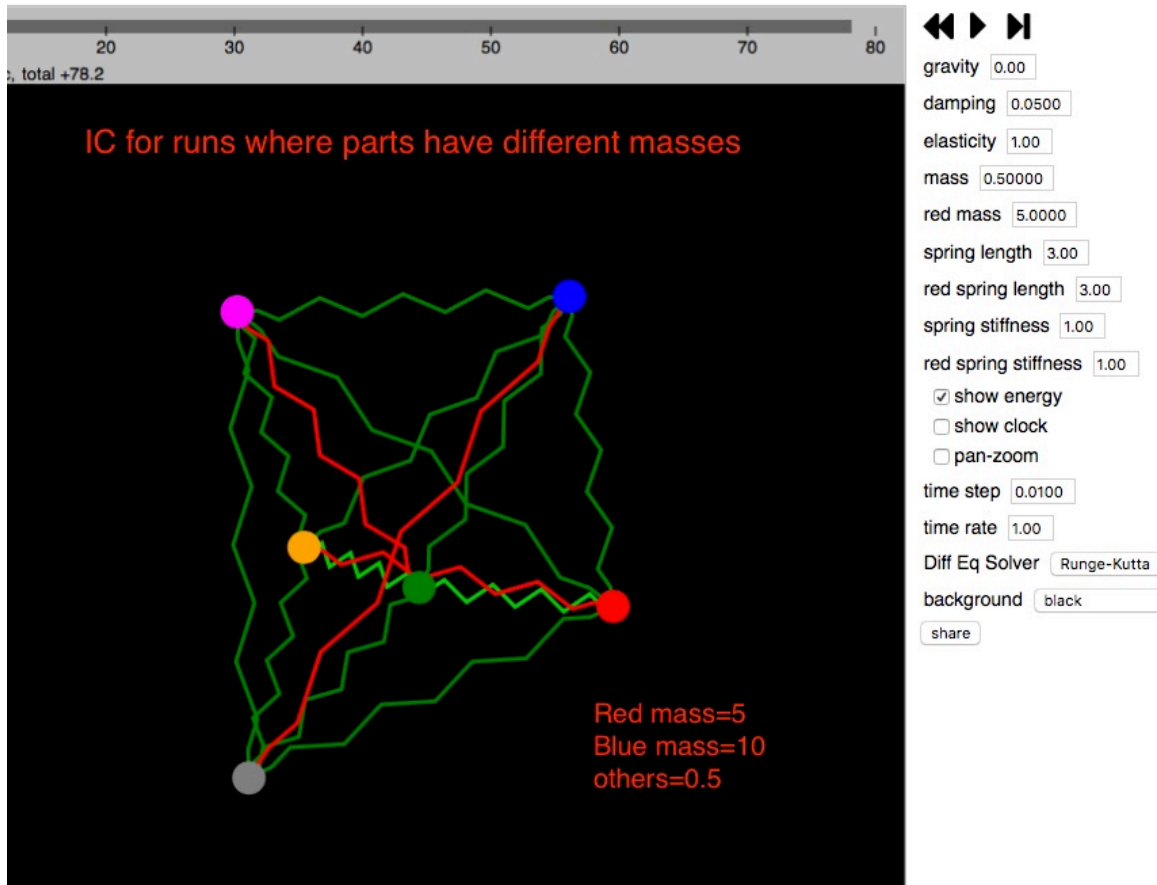


perhaps hours apart in weather forecasting, and years apart in simulations of the galaxy. The point is that dynamic systems are commonly modeled in a series of steps where the situation in one step causes the next to occur in deterministic manner. But of course here we have humans determining how one frame morphs into the next so the process is not entirely deterministic do to a certain degree of unpredictability in human decisions. Still the main theme is evolution, where one situation leads to another.

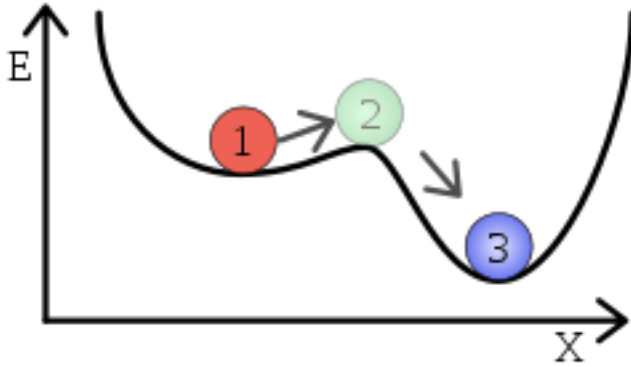
This first image shows a computer simulation of one when the bodies were resting motionless in an equilibrium configuration. Note the green springs connecting them.



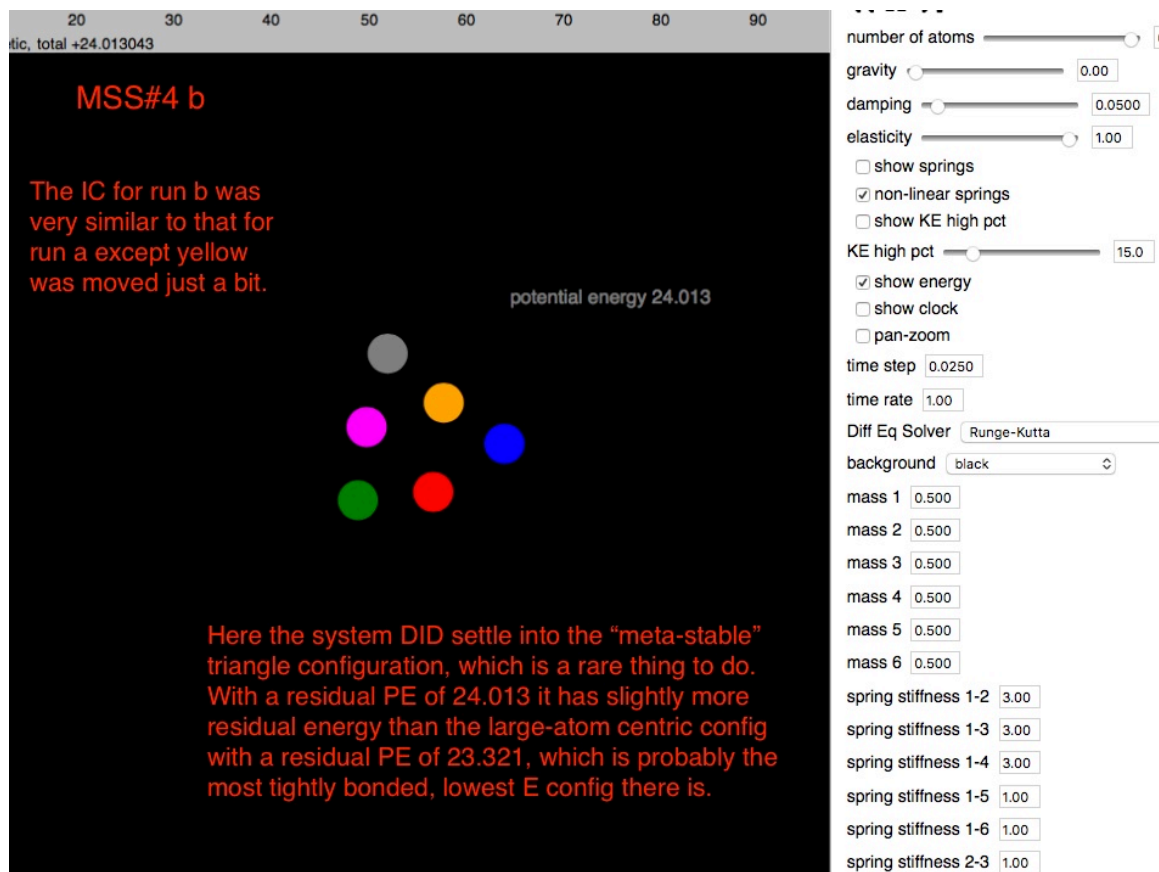
This next image is a snapshot of the bodies while in motion. One or more had been pulled far to one side and released, thus adding energy to the system and setting it oscillating violently.



This diagram illustrates the concept of metastable systems from an energy perspective. The balls are sitting on a curved surface while being pulled down by gravity. The red ball sits in a dip, which represents one metastable equilibrium state. It will remain there unless some outside force pushes it out. The green ball has been pushed up to an unstable tipping point. It will soon roll down one side or the other. The blue ball is in another metastable equilibrium. That one happens to be deeper so its more resistance to change and thus more likely to remain there than one in the red position. Its obvious red and blue could oscillate gently near the bottom of their dips.

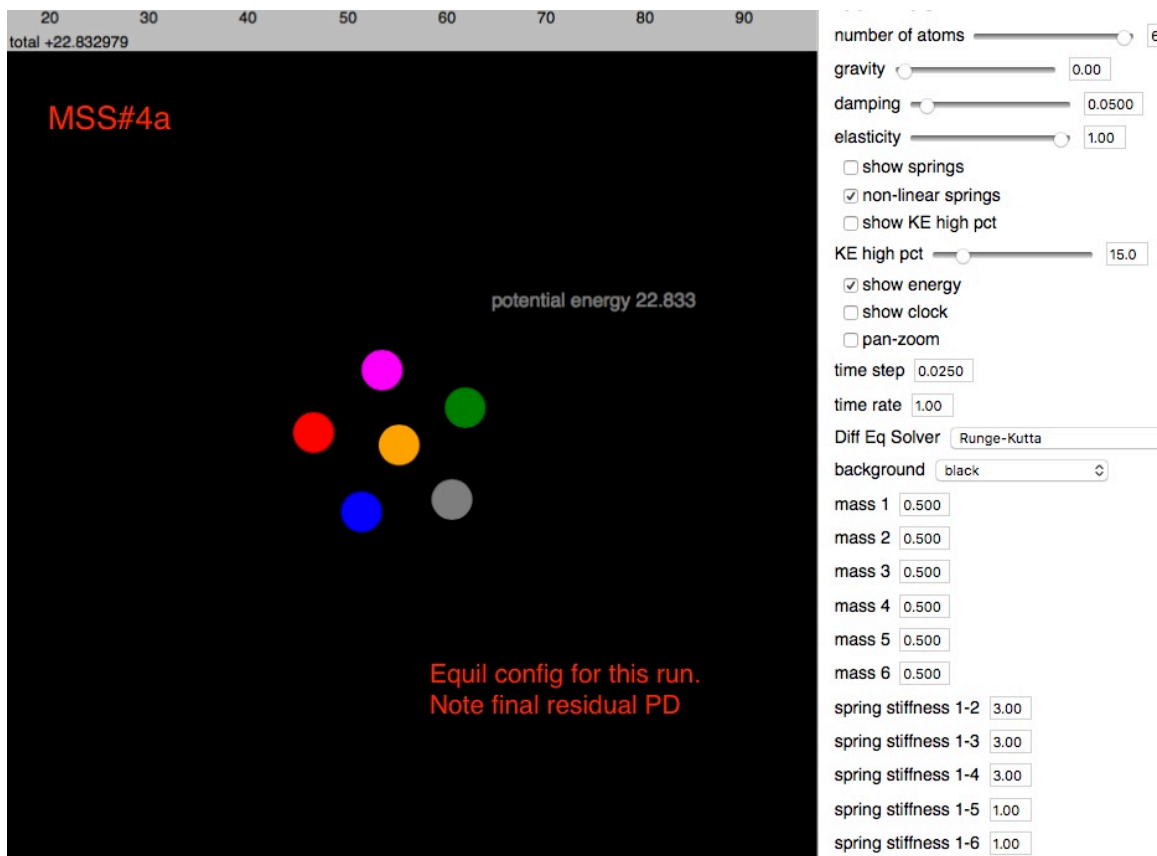


This next snapshot shows 6 masses in one of the several meta-stable equilibrium configurations or states it can have. This one is relatively fragile. A slight disturbance will destroy it.

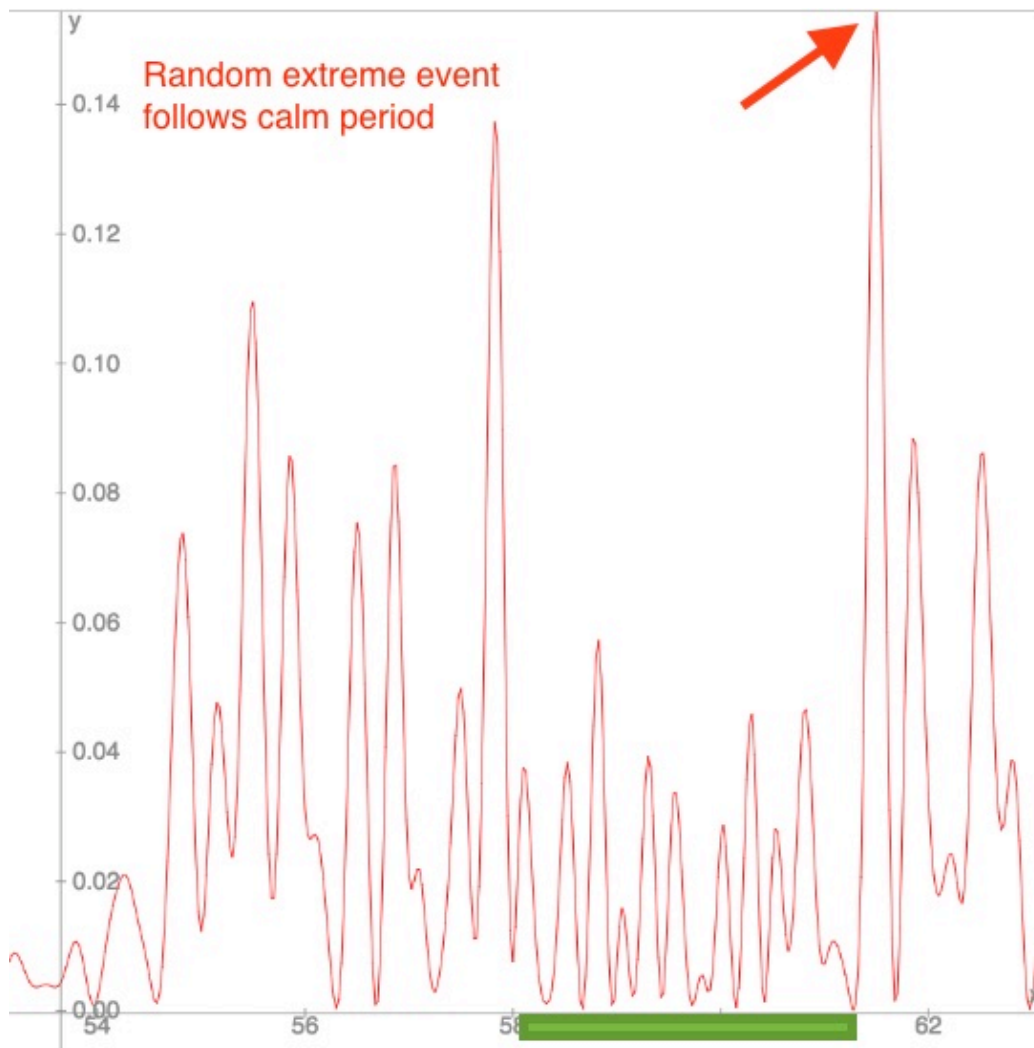


This last image shows one of the other metastable systems this system can settle into. Having a lower residual potential energy its more robust than the one above.

A social system would be in its lowest energy state when all parties had reached the best comprises possible and had quit struggling with each other. If the parties were equally powerful none would be perfectly happy, but all would be either equally happy, or equally unhappy, depending on how you want to look at it.



This last screenshot shows how the force applied on one part will randomly and momentarily spike as a natural characteristic of how such systems behave as energy is transferred around in the system. The spike occurs when all the other parts somehow act in synchronicity to apply force on just one other part. Its particularly notable that the spike can occur without warning, without any buildup; like a normal period between category-5 hurricanes or 100-year floods.



Now back to the issue of an analogy between physical and societal systems.

## 8.2 Relating N-body systems to societal systems

These are some of the ways that political and economic systems are similar to the physical N-body system described above:

**Both have relatively discrete parts.** In the physical systems they are typically masses. In the societal systems they are things like nations, government agencies like the military or the department of X, political parties, corporations, or virtually any other organization. It qualifies as a discrete part if it acts as a whole.

**Both have parts that affect each other.** In physical systems the parts affect each other with gravitational, electrostatic, or magnetic forces. In societal systems they affect each other in a variety of ways including sharing information, making requests or demands, imposing physical force, cooperating, and buying or selling from each other. Arguably all of these are

forces of some kind because they all cause the receiving party to change or react in some manner. In short the parts exert forces or pressures on each other.

**Both contain energy in one form or another.** Physical systems contain potential and kinetic energy in the usual technical forms. I believe humans have an equivalent to potential energy I call 'passion-energy'. Passion-E is simply the desire to change something. It's the difference between the current situation and what's perceived as the ideal situation. A hungry person has passion-E to eat. A frustrated person may have passion-E to obtain esteem or belonging. The more passion-energy in a society, the greater the desire for change. I further submit that passion energy converts to a form of kinetic energy when someone acts upon their passion and actually does something to help satisfy it. It may be eating that meal, joining a group for belonging, or doing something esteemed. A nation may have a society wide passion for recognition or domination, which could convert to kinetic energy if they attack another.

Without energy in a system nothing changes. This holds for all systems.

**Both have metastable states or equilibrium states** where very little if anything is changing. In physical systems the parts are literally motionless or gently oscillating. In societal systems an equilibrium state is also one where very little is changing. Different players or parts have reached de-facto compromises. This situation is often called the status-quo. A long-lived set of regulations creates a regulatory equilibrium. Stable national borders create a type of equilibrium. The hallmark of an equilibrium is not that every party is equally happy, or even that they don't want more. Instead it's that nothing is actually changing. In some political and economic systems it means that what they can expect to gain from further attempts to change the status quo isn't worth the effort.

Both physical and societal systems can have a number of different equilibrium configurations or states, and can change from one to another if disturbed enough. Each can be called a metastable simply because it can be changed if enough force is applied. For instance a nation might be stable under a dictator or king for decades but a revolution might destroy that form of government and lead to another- like a democracy- that is also stable. Political systems are often in one metastable state for years before some significant disturbance, like a revolution, destroys that state or configuration and causes the system to descend into chaos as it seeks, and eventually finds, a new equilibrium. Egypt and France before and after their revolutions are good examples of metastable states. The relatively stable political situation that exists after an election could represent a metastable state where there is a certain distribution of power and influence, a certain set of regulations and so forth that persists until the next election. If the other party wins that

metastable state would convert to another. Another example of a metastable system is a pattern of national boundaries. It can change drastically after a war.

Changing one metastable state to another might not always bring something better as the Egyptian situation proved after the “Arab spring” revolts. A relatively stable situation under Mubarak was overthrown by revolution leading to another brief metastable state where the Muslim brotherhood ruled. But a violent coup returned power to the military. The French revolution brought a period called the terror. The Russian revolution brought civil war and Stalin. It’s not clear whether society at large ended up better or worse off in these cases.

In physics one state has a lower energy than all others and is sometimes called its ground or lowest energy state. Its most stable there. What the lowest energy means in a societal system isn’t clear. I think a good working definition is that the ground state is one where everyone is equally happy. But since that doesn’t mean all have everything they could desire, it could also mean all are equally unhappy. It’s not necessarily a zero energy state devoid of passion since there could still be unmet needs, but they would be equally and arguably fairly distributed.

**Both experience spikes of extreme behavior.** And they often occur randomly and unpredictably. In physical N-body systems a body is typically accelerated violently or ejected far from its equilibrium position. Atmospheric systems experience category-5 hurricanes and 100-year floods. Economic systems have severe depressions, or events such as the savings-and-loan crisis or the dot-com bust. Revolutions and wars are the most extreme events in the political arena.

**Both can be significantly affected by small things.** Chaotic physical systems have something called sensitive dependence on initial conditions (SDIC), which means that a very small change can drastically alter the status of the system sometime later. It’s often called the butterfly effect. In political systems small things like the existence of a charismatic leader with a bold vision (Churchill, Roosevelt) can alter the course of history. The unlikely sighting of the Japanese fleet at a critical moment altered the history of WW2. The personality of Kaiser II likely had a large effect on the probability of WW1.

**Both seem to involve an occasional situation where a number of things occur at the same time to cause some dramatic event like those spikes of extreme behavior.** In physical systems a number of bodies somehow get synchronized in a way that exerts a great deal of force on one other body. We have seen that a number of factors seem to have come together and created a favorable case for war in the minds of German leaders.

**The inference that similar physics drive both:** Because the structure and behavior of both the physical N-body systems, and economic or political systems have so many points of similarity its worth asking if both are governed by the same physics in some hard to understand but fundamental way. Does energy exist in societal systems? Does it move around within the system? Does it occasionally cause extreme events? Somehow my intuition suggests the answer is Yes. But its very difficult to support this intuition with hard, semi-scientific logic because it would involve building a computer model.

### **8.3 Building a computer model of a political system**

The best way to 'prove' that societal systems are governed by something akin to the laws of physics would be to build a computer model that was able to accurately simulate the behavior of a societal system. Applied to the time prior to WW1, the programmer would input the state of the societal system in say 1907 and see if the model would predict the outbreak of WW1 in 1914. The model would start with the action of nation A -in frame one of the movie- and compute how the other nations would react to it. That would create the second frame in the movie. Then to make the third frame it would compute the reactions of all the nations to all the actions others took in frame two. And so forth.

Models are validated by seeing how well they could have predicted historic events. If such a model was able to predict past events we could input conditions today and use it to predict a few years into the future.

One could fake such a model by using historic accounts to fill in the details about what actions and reactions actually occurred -frame by frame- in WW1 but this doesn't prove anything about physics. Its just a structured way to document history in a step by step format.

However we could put things in physics-like terms by saying nation A had the passionE to take some action, and that action put pressure on nations B, C and D, which raised their desire or passionE to respond in some manner. In the next frame their actions inserted more forces and caused more reactions. We wouldn't necessarily need to say what the actions were, nor what the nature of the pressures were. It would simply be a matter of energy being transferred around the system.

I've spent a few hours trying to extend this line of thinking but it's been fruitless so far. I had especially hoped to credibly envision a model that might show how passion energy oscillated around within the system until it concentrated on one nation. The idea being that such a concentration would cause that nation to do something extreme, like declare war. I invite others to give this a try.

Rather than document my attempts I will briefly describe a few other attempts to model societal systems, in order to illustrate how difficult it is.



**Economic systems:** Economists and investors have tried mightily to construct models that can predict things like stock prices, business cycles and depressions, but apparently with little success. They have achieved some success in predicting variables like unemployment, but only a few quarters ahead.

See paper called: "Why Economic Models Are Always Wrong"

<https://www.scientificamerican.com/article/finance-why-economic-models-are-always-wrong/> and <http://www.businessinsider.com/8-charts-prove-economic-forecasting-doesnt-work-2016-1>

"Writing in the New York Times, Krugman (2009) claims that the macroeconomics of the last thirty years is spectacularly useless at best and positively harmful at worst. He asserts that we are living through the dark age of macroeconomics in which the hard-won wisdom of the ancients has been lost. In his view: The economics profession has gone astray because economists, as a group, mistook beauty clad in impressive-looking mathematics, for truth. Not only did few economists see the current crisis coming, but most important was the profession's blindness to the very possibility of catastrophic failures."

<http://press.princeton.edu/chapters/s9743.pdf>

**A resource constrained societal system:** Perhaps the most important attempt to model a global system is described in a famous 1972 book called Limits to Growth. A group of analysts called the 'Club of Rome' developed an elaborate computer model to study scenarios involving a growing global population constrained by limited natural resources. Here are some quotes from a Wikipedia article about it:

"Two of the scenarios saw "overshoot and collapse" of the global system by the mid- to latter-part of the 21st century, while a third scenario resulted in a "stabilized world"

The results garnered much attention, but also initial criticism. However, "In the early years of the 21st century, the tide of opinion regarding *LTG* began to swing in a positive direction. Reading *LTG* for the first time in 2000, influential energy economist Matthew Simmons concluded his views on the report by saying, "In hindsight, The Club of Rome turned out to be right. We simply wasted 30 important years ignoring this work." And "In 2008, Graham Turner of (CSIRO) found that the observed historical data from 1970 to 2000 closely match the simulated results of the "standard run" limits of growth model for almost all the outputs reported. "The comparison is well within uncertainty bounds of nearly all the data in terms of both magnitude and the trends over time." ... "In 2016, a report published by the UK All-Party Parliamentary Group on Limits to Growth concluded that "there is unsettling evidence that society is still following the 'standard run' of the original study – in which overshoot leads to an eventual collapse of production and living

standards". The report also points out that some issues not fully addressed in the original 1972 report, such as climate change, present additional challenges for human development."

[https://en.wikipedia.org/wiki/The\\_Limits\\_to\\_Growth](https://en.wikipedia.org/wiki/The_Limits_to_Growth) (see also References E8 and E9)

I draw four conclusions from this LTG effort. One is that the findings of this modeling effort are broadly relevant and should be taken seriously. Second, this model can not predict what will actually happen, because the overall system is too complex and involves unpredictable human behaviors. However it can predict problems that seem likely to occur absent unforeseen technical advances or deliberate human actions to mitigate them well in advance. Third, it suggests that useful insights into the future of societal systems can be obtained if we model just the likely interaction of a few major trends or variables. For example it would be useful to model a growing global population with an increasing demand for a higher standard of living, interacting with climate change, food and water availability, and energy technology. Lastly, I had some reservations about the logic within this model when I first studied it briefly in 1973, and I retain them today after a look at the recently published update. (E 8) Still I applaud the overall effort and think the concerns the authors raise are valid.

**Too complex to model?** We have already seen that there were a wide range of factors that influenced the Kaiser's, and his advisor's, desires for war. And we have suggested how complex the chemistry of weighing and integrating them in their minds must have been. It would be essentially impossible to program a computer model of their thinking, and if that couldn't be done then the model couldn't have predicted WW1.

## 8.4 N-body conclusion

Although there are striking similarities between the behavior of physical N-body systems and the behavior of this particular WW1 example of a political system, it's very difficult to demonstrate they are governed by the same physics, and more importantly that the same physics is guiding the evolution of political systems today, and is the fundamental reason extreme events occur at random intervals. But that doesn't prove similar physics don't exist. This intriguing notion deserves more thought.

## 9: Overall Conclusions

1) This WW1 story is one example of the behavior of a societal system. It's important since it describes a system that went horribly wrong, and that we can learn from.

2) Geo-political systems can twist and turn themselves in complex ways until pressures reach a tipping point and conflicts occur. The fundamental causes are not always obvious, and their roots stretch back in time.

3) We should learn how and why societal systems can go horribly wrong by studying past disasters like wars and economic depressions. And of course we should try to avoid making the same mistakes again. This chapter is one brief attempt at such a case study.

4) The fundamental cause of WW1 was 'wrong-thinking'. It was a two-step failure in thinking. First, preoccupied with immediate or tactical concerns, leaders failed to even think they should try to identify the underlying reasons why Germans and other national populations had the dangerous attitudes and beliefs prevalent in their societies like nationalism, social-Darwinism, and militarism. (These stemmed from basic human needs such as esteem, pride, belonging, and having a purpose to identify with.) Second, as a result, leaders took no steps to defuse the situation by finding benign ways to meet these basic needs, as opposed to dangerous ones.

5) Proper top leadership is essential in avoiding societal disasters since top leaders have great power to influence public attitudes and set policy. The fact that just a few top officials failed to understand and deal properly with an impending crisis caused the death of 20 million people in WW1. There is a similar lack of proper leadership re climate change in the US today.

6) Elected officials, government agencies, thinkers, and the press should periodically evaluate the performance of social, economic and political systems to ensure they are meeting the full spectrum of basic human needs equitably and as fully as possible, and that the means being used to do so are healthy and not leading to conflict.

7) The evolution of social systems is so complex that it's near impossible to predict what the future will bring in any detail, or to predict specific events like wars. Nevertheless it is possible to predict what broad problems are likely to develop if current trends continue and nothing is done to avoid them. One approach is to identify major trends and try to estimate how they may develop and interact in future. Different scenarios should be created. No matter how complex and obscure the detailed evolution of the system might be, it nevertheless seems less likely to end in disaster if basic human needs are not being met. Unmet needs provide the motivation or 'passion energy' that propels violent protest, war, and revolution.

8) Social beliefs and attitudes are formed by past experiences and realities. In turn they help shape future realities. Thus reality, beliefs and attitudes co-evolve. And since they evolve, most, if not all, beliefs, attitudes and realities

are caused by those that came before. Some beliefs and attitudes can be traced back to Maslow's hierarchy of needs.

-----end of WW1 case study -----