

SWP Research Paper

Volker Stanzel and Daniel Voelsen

Diplomacy and Artificial Intelligence

Reflections on Practical Assistance for Diplomatic Negotiations



Stiftung Wissenschaft und Politik
German Institute for
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- AI holds the promise of being able to analyse large amounts of data faster and more reliably than humans can. So is it also possible to use AI systems to analyse information relevant to diplomatic negotiations in a way that adds significant strategic value?
- We explore this question through two exploratory case studies. The first examines the negotiations for a German-Austrian customs union in 1929/30. Here we show how AI systems could be used to develop a spectrum of possible scenarios in an automated way for the purposes of strategy formation.
- The second case study looks at the negotiations on the so-called “cyber-crime” resolution within the framework of the United Nations (UN). In cooperation with the Federal Foreign Office (AA), the study investigates whether and in what form AI systems allow the behaviour of states in the UN General Assembly to be predicted.
- Based on the two case studies, we take a systematic look at further possibilities for using AI as a tool for diplomacy, for example, in the automated monitoring of public media around a negotiation process.
- Today, AI is still often prone to error and will foreseeably not be able to replace the judgement of experienced diplomats. As a supporting tool, however, AI has the potential to make an indispensable contribution to the preparation and conduct of diplomatic negotiations.
- German foreign policy should create the conditions to further explore the potential of AI and other methods of data analysis for the purposes of diplomatic negotiations, develop a “foreign policy data strategy” and draw up normative guidelines for the use of AI in the context of diplomacy.

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Diplomacy and Artificial Intelligence. Reflections on Practical Assistance for Diplomatic Negotiations

Can Artificial Intelligence (AI) open new doors for the practice of diplomacy? Throughout history, “diplomacy” has meant the efforts of human communities to peacefully reconcile their interests with one another, before or after attempting to enforce them by force. For the analysis of negotiations, it is possible, based on political science research, to focus on three central aspects of the environment of negotiations: the power resources of the states involved, their strategy, and the personality of the individuals involved.

AI holds the promise of being able to analyse large amounts of data faster and more reliably than humans can. AI applications are already in use today in many areas of administration and business – and the COVID-19 pandemic presented an opportunity to expand such applications considerably. A number of foreign ministries already use AI, and alternative forms of data analysis, for administrative purposes, for example in consular affairs, or for the purposes of semi-automated public diplomacy. At this point, however, we are concerned explicitly with the core of diplomatic practice: negotiations.

This study asks whether it is possible to use AI systems to evaluate the information relevant for a negotiation in a way that creates significant added value compared to the traditional methods of data analysis for preparing and conducting a negotiation. On the one hand, the added value is measured by a formal criterion of efficiency: is it possible to evaluate information with less resource input, i.e. to achieve results more quickly and thus have a significant information advantage over other actors? On the other hand, the quality of the analysis is crucial: does it provide strategic insights that decisively improve the negotiators’ chances of success? Since the determination of the “outcome” of negotiations is influenced by a multitude of factors, the added value of AI can only ever be measured in the course of negotiations. The expectation, however, is of course that the improvement of chances of success through AI analyses will also lead to more diplomatic success.

In principle, concrete AI applications can be assessed using this twofold yardstick. However, since there are no reliable indications so far that AI is already being systematically used somewhere for the purposes of diplomatic negotiations, it is still too early for such a concrete assessment. Instead, the aim of this study is to investigate AI's potential in this regard through an exploratory approach and to develop recommendations for German foreign policy therefrom.

Two case studies form the starting point. The first case study examines the negotiations for a German-Austrian customs union in 1930/31 and thus a case that is in many respects typical of bilateral negotiations. It clearly shows how quickly and often unpredictably the dynamics of negotiations change. However, the explorative approaches show us that it is precisely in such cases that AI systems can be suitable for automatically developing a spectrum of possible scenarios that can contain useful indications for the negotiators' strategy formation.

The second case study looks at the present-day multilateral negotiations on the so-called "cyber-crime" resolution within the framework of the United Nations. A particular challenge here is to evaluate a large amount of information on the goals and strategic considerations of a large number of actors. As part of a pilot project in cooperation with the German Foreign Office, the study investigates whether and in what form AI systems allow the behaviour of states in the UN General Assembly to be predicted. The results are still too vague, but here, too, the potential of AI is emerging.

Based on the in-depth discussion of the two case studies, the last part of the study systematically summarises which approaches in the field of AI might be suitable for which aspects of diplomatic negotiations. Some features of such negotiations will probably never be captured objectively and quantitatively in a way that would be necessary for AI-based analyses. And yet, beyond the case studies, there are other examples of the potential added value of AI as a tool for diplomacy, for example, in the automated monitoring of public media around a negotiation process.

The study concludes that artificial intelligence has the potential to become an important, possibly indispensable tool for the preparation and conduct of diplomatic negotiations, especially by providing scenarios and forecasts. This leads us to three recommendations:

Firstly, German foreign policy should create the conditions for further exploring the potential of AI and other methods of data analysis for the purposes of negotiation diplomacy.

Secondly, we recommend a "foreign policy data strategy". The possibilities of data analysis for diplomatic purposes depend on what data are available. Looking ahead, it would therefore make sense to collect and process data from diplomatic practice in a targeted and structured manner. For this purpose, the data analysis units in all government departments involved – as well as in parliament – should be equipped according to need.

Thirdly, normative guidelines for the use of AI in the context of diplomacy must be drawn up from the outset. This concerns questions of system security, data protection and, above all, human control and responsibility. It would also be a mistake to delegate political value judgements to an AI system.

Diplomatic Negotiations

The nature of diplomatic communication and interaction

Through the practice of communicative interaction between the parties involved, a variety of instruments and institutions have emerged for the pursuit of diplomatic interests. These include: firmly established or ad hoc, bilateral or multilateral discussion platforms; discussion channels in the form of diplomatic missions; technical communication facilities (e.g. “red telephones”) and formalised oral or written exchanges; and indirect communication via the media, the public and other intermediaries.

Diplomatic negotiations make for the core of diplomacy.

Diplomatic negotiations make for the core of diplomacy. They may lead to a new or a newly confirmed status in the relations between the states involved, to joint or unilateral concerted action, to the failure of negotiations or to their transfer to another temporal, geographical or institutional framework. The consequence of failure may be the use of military or non-military means of coercion. The resolution of conflicts without recourse to coercive means, thus, as defined in Chapter VI of the UN Charter, fundamentally constitutes the goal of diplomatic negotiations.¹ At first glance, the distance between peaceful, consensus-oriented talks and resorting to instruments to enforce one’s own wishes seems wide. Nevertheless, the events of 2020/21 clearly show how quickly even member states of the European Union are willing to push aside Schengen

regulations and consultation requirements within the EU in order to protect their borders by force of arms against carriers of the COVID-19 virus. Thus, in negotiations of whatever kind, the use of coercive means as a last resort, throughout history, has always been an option: seemingly distant, yet never completely off the table. Today, however, instead of “traditional” military action, other types of coercive measures, such as sanctions, are more often taken – the global economy as the new diplomatic “battlefield”.²

Even after the use of coercive measures, however, a fundamental principle of diplomatic negotiations still applies: they never end. Richelieu’s term “*négociation continue*lle” reflects the realisation that changes in the basic conditions of negotiation results can quickly render them invalid again *in toto* – with the consequence that the two sides face each other anew at the negotiation table or on the battlefield.³

Analytical framework for assessing the chances of success in negotiations

In order to assess the chances of success in negotiations in advance or to analyse the course of negotiations retrospectively, an analytical framework is needed. Based on the existing research in political

2 Sascha Lohmann, “Diplomats and the Use of Economic Sanctions”, in *New Realities in Foreign Affairs. Diplomacy in the 21st Century*, ed. Volker Stanzel (Baden-Baden, 2019), 12–17.

3 G. R. Berridge, Maurice Keens-Soper and T. G. Otte, *Diplomatic Theory from Machiavelli to Kissinger* (Basingstoke: Palgrave Macmillan, 2001), 73ff. The E3+3 negotiations with Iran are a suitable example here: the negotiations began (initially only between the Europeans and Iran) in the shadow of the Second Gulf War, they ended temporarily due to President Barack Obama’s intervention, then failed temporarily due to President Donald Trump’s withdrawal from the agreement negotiated with Iran, and are now taking place again in a once more changed environment. See Brigid Starkey, Mark A. Boyer and Jonathan Wilkenfeld, *International Negotiation in a Complex World*, New Millennium Books in International Studies (Lanham, MD: Rowman & Littlefield, 2015), 27ff.

1 Christer Jönsson and Martin Hall, *Essence of Diplomacy* (Basingstoke: Palgrave Macmillan, 2005), 82; see also idem, “Communication: An Essential Aspect of Diplomacy”, *International Studies Perspectives* 4, no. 2 (2003): 195–210 (196). See also Andreas Wilhelm, “Diplomatie”, in *Handbuch der Internationalen Politik*, ed. Carlo Masala, Frank Sauer and Andreas Wilhelm (Wiesbaden: VS Verlag für Sozialwissenschaften, 2010), 337–52.

science, we focus on three aspects of the overall environment: the power resources of the states, their strategy and the personality of the individuals involved.

(a) The fundamental considerations on the relationship between negotiations on the one hand and the use of force on the other point to the most important criterion for the course and outcome of negotiations: the **power resources** a state can bring to bear in the negotiations or directly.

In their current form, states are bound by the norms of international law. However, there is no global authority equipped with sufficient means of coercion to punish violations of such norms, despite the general prohibition of the use of force codified in Article 2 of the UN Charter.

The assertiveness of a state is not synonymous with its military or economic strength.⁴ Rather, it is the function of material means, technical know-how, institutional diplomatic capacities and capabilities, the international and national environment, and the possibility of sudden changes. Negotiation and the possibility of using coercive measures in diplomatic dealings go hand in hand as a result of a cost-benefit analysis that governments have to carry out continuously.⁵ Consequently, with regard to the negotiating parties, an evaluation of the power resources at the other side's disposal becomes the first criterion for assessing the course of a negotiation process.

However, just as the outcome of armed conflicts cannot be predicted by comparing troop strength and tank numbers, the outcome of a negotiation process cannot be reliably predicted by the totality of a state's means to use coercive measures. The various agreements reached between East and West during the Cold War show that extensive symmetry of means of power need not lead to a negotiating stalemate, but can be conducive to a willingness to compromise.⁶

(b) Another factor that can shed light on the expected course of negotiations is the **strategy** pursued by the negotiating partners. In essence, this is about defining goals and selecting appropriate diplomatic instruments. It can also include shifting the parameters of the negotiations to one's own advantage: for example, changing the context of a concrete negotiation by linking it to other disputes or choosing a new institutional framework, expanding the circle of actors, raising new demands and conditions, or influencing the public and their media platforms.

(c) Diplomatic negotiations take place in a specific social sphere with its own rules for communication and interaction among the participants – starting with the norms of international law. At the same time, factors can influence the negotiations that were not sufficiently perceived by the negotiators in advance, such as the presence of “uninvited negotiators”⁷ like the traditional and electronic media. Therefore, another factor not to be underestimated is that of the **personality of the individuals** negotiating. It is an essential element of negotiations, which consists primarily of the mutual scanning of the positions of the participants. This means that peculiarities of interpersonal communication such as joy, anger, embarrassment, surprise, lying, openness, and so on can often play an unexpectedly essential role – and thus complicate a systematic analysis.⁸

4 Michael Barnett and Raymond Duvall, “Power in International Politics”, *International Organization* 59, no. 1 (2005): 39–75.

5 Marcel Merle, “International Negotiation: A Process Worthy of Reexamination”, in *Processes of International Negotiations*, ed. Frances Mautner-Markhof (Boulder, San Francisco and London: Westview Press, 1989), 233–40 (235).

6 Klaus Citron, “Experiences of a Negotiator at the Stockholm”, in *Processes of International Negotiations*, ed. Mautner-Markhof (see note 5), 79–84. See also Christer Jönsson, “Situation-Specific vs. Actor-Specific Approaches to International Bargaining”, *European Journal of Political Research*, 6

(1978) 4, pp. 381–98; I. William Zartman, *The Negotiation Process* (Beverly Hills and London: Sage, 1978).

7 Starkey, Boyer and Wilkenfeld, *International Negotiation in a Complex World* (see note 3), 109; on the role of the media see p. 108ff.

8 Concerning the “reputation” of negotiators see Fred Charles Iklé, *How Nations Negotiate* (London: Harper & Row, 1964), chap. 9.

Artificial Intelligence

In recent years, the topic of “artificial intelligence” (AI) has gained considerable attention. As exaggerated as the public hype may be at times, there is genuine technological progress behind it: the performance of computer processors is increasing every year, along with advances in memory technology and research into AI algorithms. In sum, it is now possible to process more data faster than ever before – with consequences that are already visible in everyday life, if we think of facial and speech recognition.

The term artificial *intelligence* is often understood to be about using machines to perform tasks previously thought to require human intelligence. The problem, however, is that as technology advances, so too do expectations of what AI is capable of – and thus so does the idea of what AI is. One would hardly describe a pocket calculator as an example of artificial intelligence, even if it performs tasks for which human intelligence was previously thought to be irreplaceable. Therefore, it is no coincidence that developments in the field of AI have been inspiring lively debates about the nature of human intelligence for decades.⁹

The considerations are based on a deliberately narrow understanding of AI, which sees AI as a cipher for machine learning methods.

This study deliberately draws on a narrow understanding of AI, which sees AI as a cipher for machine learning (ML) methods. These methods are characterised by the fact that the corresponding algorithms – i.e. the rules according to which a programme processes a task – are designed in such a way that they can develop independently within certain parameters. In this limited technical sense, they are learning machines.

⁹ Yuval Noah Harari, *Homo Deus: A Brief History of Tomorrow* (London: Harvill Secker, 2015).

The logic of machine learning

In essence, today’s ML methods are particularly suitable for recognising patterns in large amounts of data. To do this, they break down large amounts of data into a large number of individual data points, which can then be processed using statistical methods. When analysing speech, for example, the audio input is digitally recorded and then analysed in ever more detail at enormous speed: Does the data contain human speech acts? Which sounds are connected and form words? What language do these words come from? Which words form a sentence? What is the content of this sentence? A wide variety of data inputs can be analysed in this way, e.g. text, image/video, sound, weather data, event data, and metadata.

To be able to conduct such analyses, ML systems must first learn how to approach the data input. This is achieved by feeding such systems specifically prepared “training data”. For image recognition purposes, such training data contain, for example, clues about what is depicted in a photo or illustration. ML algorithms use these training data by analysing which visual properties allow conclusions to be drawn about what kind of object it is.

Once a system has been set up with a training dataset, it can analyse further, new data. Depending on the configuration, a system can be used statically from this point on, or it can evolve with new data points from practical use. Search engines, for example, learn from the click behaviour of users as to whether a displayed search result was “suitable”.

Today’s machine learning methods are not suitable for uncovering causal relationships.

As impressive as the analytical possibilities of AI are, it should be noted that today’s ML methods are far removed from the performance of human intelligence. Humans, for example, understand the concept of “dog” even without having analysed millions of photos of dogs. Moreover, we as humans have a

form of intelligence that enables learning processes and mental links between different, sometimes far-flung subject areas. It should also be emphasised that current forms of ML are not suitable for uncovering causal relationships.¹⁰ Neural networks work with probabilities in order to recognise patterns; however, they cannot check these patterns for causalities. If causal effects are to be analysed, a “classical” scientific investigation therefore remains necessary.

The advantage of AI systems, on the other hand, is that, like any computer, they are generally better than humans at sifting through large amounts of data without getting tired, sloppy or simply terribly bored. For a human being, it would be an imposition to manually look through the birth register of a city to see what trends in naming have emerged in recent decades. AI systems, on the other hand, are simply tailor-made for such “diligent work”.

Analyses and forecasts

Among the most prominent examples of AI-based analyses are speech recognition and the recognition of objects of various kinds in images. These analyses have now advanced to the point where it is even possible to simulate the speech and external appearance of people. For several years now, for example, the organisation OpenAI has been working on a system (“Generative Pretrained Transformer”, GPT) that makes it possible to generate texts that appear to be written by humans on the basis of a few clues.

Closely related to this is the analysis of attitudes towards people, institutions and products (“sentiment analysis”). This mostly involves analysing newspaper reports and representations in publicly accessible “social media” profiles. No AI systems are needed to record the frequency of certain terms in texts. What AI can add to such a text analysis, however, is an independent identification of central contents and the emotions associated with them.

Based on the analysis of past events, AI systems are also used to create forecasts for future developments. In this respect, every AI forecast is based on an analysis, although conversely not every AI-based analysis has to be used for forecasting purposes.

The best-known example of this is recommendation systems, such as those used for so-called targeted advertising. Based on the analysis of customers’ behaviour in the past, predictions are made about their future preferences. Such recommendation systems are also used by many social media providers to display information to their users that is likely to be of most interest to them.

A politically controversial example is predictive policing. Here, the idea is to be able to identify those places where it is most likely that laws will be violated in the near future – and to prevent this by sending police forces. An unresolved problem in this regard is that predictive policing itself can change the data on which future predictions are based: the appearance of the police may have a deterrent effect, so that a violation of the law does not occur. Another possible bias is that police officers are more likely to detect violations when they are on the scene. The prediction may thus become a self-fulfilling prophecy: because police officers are sent to a particular location on the basis of a prediction, they then find violations of the law there, which further worsens the statistics of the location, which in turn gives further reason to send more police officers there, and so on.¹¹

Another form of prognosis is to develop scenarios and even concrete recommendations for action. In games like chess and Go, for example, AI systems are now superior to human players. They can access enormous amounts of data and process them faster than their human counterparts can. Interestingly, the AI systems have discovered strategies that humans had never thought of before.

¹⁰ Bernhard Schölkopf, “Causality for Machine Learning”, *ArXiv.org* (2019), <https://arxiv.org/abs/1911.10500> (accessed 23 August 2021).

¹¹ Sarah Brayne, “Big Data Surveillance. The Case of Policing”, *American Sociological Review* 82, no. 5 (2017): 977–1008.

Two Case Studies

In this section, two historical negotiation situations will be examined. Starting with a description of the actual course of events, a counterfactual will be used to explore whether it would have meant a strategic advantage for the participants if they had been able to fall back on AI analyses. The two cases were chosen because of their differences. The first case study from 1929/30 is typical of bilateral negotiations. The second case study looks present-day multilateral negotiations in the UN framework. The aim is not a structured comparison of these cases, but an exploratory study of the use of AI in different negotiation situations.

Case Study 1: The German-Austrian Customs Union

The case study here deals with a German-Austrian project in 1930/31 to establish a bilateral customs union. The negotiations were bilateral until third parties intervened, which eventually resulted in Germany and Austria giving up on this project altogether. The two main parties had feared this outcome from the beginning, but ultimately could not prevent it.

In cases like these, success or failure are usually not accidental but the result of the preceding negotiations. Our question is therefore whether AI analyses could have provided the German diplomats with insights that would have increased the possibility of a successful conclusion of the negotiations. In our attempt to answer this question, the 90 years or so that have passed since have proven beneficial: the passing of time has created a kind of “alienation effect” that allows us to approach the problems that the negotiators faced in a more distanced, unbiased way.

The essential features of the entire negotiation process are documented in the official collection of

*Files on German Foreign Policy*¹² We deliberately follow these records — which are limited to the German files —, thus taking the perspective and the state of knowledge of one of the actors involved as the starting point.

Background

The Treaty of Versailles, which legally ended the First World War in 1919, reduced the territories of Germany and Austria considerably. This was particularly painful in the case of Austria, formerly the largest European state after Russia, which shrank to about 13 per cent of its former size. In addition, the Geneva Protocol of 1922 forbade a German-Austrian merger. The League of Nations monitored compliance with all post-war agreements, including the Geneva Protocol, with economic matters overseen by the “Commission for the Study of the European Union” set up by the Briand Plan of 1929/30.

With **Germany's** initially rapid economic recovery from the war, the foreign policy of the Weimar Republic soon took on revisionist features. In 1925, the cabinet decided to work to create a country that would encompass all ethnic groups wishing to join. Economics Minister Julius Curtius — later, at the time of the negotiations on the customs union project, Foreign Minister — saw trade with Austria as an instrument to lead both countries towards political unification.

As far as **Austria** was concerned, the disappearance of most of the former Habsburg Empire worsened the economic situation from 1925 onwards. Large parts of the Austrian economy subsequently cooperated more closely with Germany, prompting the government to align legal, consular and traffic regulations with those of its German counterparts. In 1930, Chancellor Schober — foreign minister in another coalition in 1931 — came to the conclusion that Austria would only be able to survive economi-

¹² *Akten zur Deutschen Auswärtigen Politik 1918–1945*, series B: 1925–1933, vol. XIV (Göttingen: Vandenhoeck & Ruprecht, 1982), <http://dx.doi.org/10.1524/9783486718294>.

cally and financially if it merged with a larger economic area. He had Germany in mind, while other, especially fascist, groups in the country were striving for an Austro-Hungarian-Italian bloc.

An important element of **France's** foreign policy was the goal of preventing any strengthening of Germany. France had therefore concluded an alliance with Czechoslovakia in 1924, which committed both countries to jointly oppose violations of the post-war treaties. In 1929, Foreign Minister Aristide Briand presented a "Memorandum on the Creation of a European Union" to the League of Nations. In the eyes of parts of the German public, such a union would have fixed the post-war borders. In concrete terms, it initially only came to the establishment of the aforementioned Commission for the Study of the European Union.

Czechoslovakia, created as a sovereign state only after World War I, depended economically on Germany and Austria. A union of these two would have weakened Prague considerably politically. Thus, in 1924, Foreign Minister Edvard Benes declared that a German-Austrian unification would mean war.

The negotiations¹³

The negotiation process can be divided into four phases. From phase to phase, the question of how to deal with the resistance of other — decisive — states became more pressing. The objections of third parties to the German-Austrian project were partly anticipated, but the level of opposition nonetheless surprised the two protagonists, Germany and Austria. An unforeseen drastic deterioration of Austria's economic situation in the first half of 1931 as a result of the world economic crisis made the situation even more difficult.

Phase 1: German-Austrian agreement on the customs union project

A report by the German ambassador to Austria sent to Foreign Minister (AM) Curtius of 25 December 1929 observes that Austrian industry wanted a German-Austrian customs and economic union. A policy directed towards this goal could be presented as based on "international or pan-European principles". This

¹³ The presentation follows selected files, the contents of which are briefly summarised. The referenced documents can be found with the help of their respective dates in the above-mentioned collection of files.

was followed on 4 February 1930 by an instruction from the German State Secretary (StS) Carl von Schubert to the ambassador in Vienna to inform the Austrians that a customs union would be a step forward in mutual relations, but that the victorious powers in the war might regard it as a violation of the ban on unification. On 23/24 February 1930, consultations took place between the two Federal Chancellors (BK) in Berlin. In a marginal note, StS von Schubert states that it has been decided to prepare for a customs union and to solve the problems of the (weak) Austrian textile and timber industries in advance and to prepare for possible resistance from Czechoslovakia. The Austrian BK Johann Schober had said "that if we do the customs union, we will get the whole Balkans through it".

In the course of that first phase, it seemed to both sides that there might be some resistance to the project in Czechoslovakia and among the victorious powers. Moreover, after the establishment of the customs union, problems could arise for parts of the Austrian economy. In order to deal with these challenges, on 4 June 1930 the German Foreign Office informed the German embassies in Bern, Brussels, Budapest, Bucharest, London, Paris, Prague and Rome on the German-Austrian consultations of 23/24 February at the BK level, and that Austria's internal situation requires joint efforts for economic recovery. A weaker Austrian economy could possibly make the country more dependent on France and Italy. However, the political constellation in Europe at that time made a unification of Germany and Austria impossible. This determined the starting position for the pursuant negotiations on a customs union. Furthermore, on 26 June 1930, the German Foreign Office (AA) states that the draft of a German-Austrian trade treaty contained a new most-favoured-nation clause and provided for the reduction of German customs duties on products of weaker Austrian industries.

Phase 2: The negotiations begin

On 7 July 1930, a note by the German Foreign Minister (AM) maintained that unification with Austria was the most important foreign policy task in order to steer Southwestern Europe according to German interests. Soon after, the first negotiation rounds took place. In these, the German Special Envoy Karl Ritter recorded on 7 January 1931 that the Austrian Special Envoy Richard Schüller would recommend the acceptance of the draft to his government and had shown understanding for the fact that it was necessary to

prove that neither side intended to change the post-war order in Europe. On 16 January 1931, the German AM instructed StS Bernhard von Bülow regarding his talks with the Austrian AM in Geneva that the project was to be kept “completely secret” until the governments were prepared to go public; the diplomatic initiative had to come from Austria in order to avoid the impression that Germany was preparing unification. On 20 January 1931, StS von Bülow informed the German ambassador in Washington that the intention was “to wrap the project in a pan-European cloak.” Lastly, on 28 January, and again on 28 February 1931, the German AM informed the cabinet, without naming the customs union project, that he would discuss “pan-European and related economic matters” in Vienna in March.

In between, an examination of the international law aspects of the customs union project in the AA in February 1931 concluded that the involvement of the League of Nations as well as the International Court of Justice was to be avoided. Rather, the project should be submitted as a purely economic one to the Commission for the Study of the European Union.

Phase 3: France is taken care of

On 6 March 1931, the German ambassador in Paris Leopold von Hösch noted for the German AM that Germany had six problems: Austria, reparations, the Eastern border, disarmament, the Saarland question and the colonies. None of these problems could be solved without France. The German AM summarised as follows: Germany must continue to pursue the customs union project without seeking a compromise with France, which will be impossible to achieve anyway. Pursuantly, on 9 March 1931, “top secret” instructions were issued by StS von Bülow to the German ambassador in France that a far-reaching consensus had been reached with Austria. When asked, the ambassador could tell the French side that he assumed the subject of the talks had been the European economic crisis and efforts to link the economies of the two countries more closely. Again, on 17 March 1931 the StS instructed the German ambassador in Paris that in response to the French question about the customs union the ambassador should show “not a trace of bad conscience”. It was indisputably Germany’s right to first consider its own interests as well as those of Austria.

However, on the same day, the *Wiener Freie Presse* reported on the customs union project. Thus, both sides were now faced with the priority task of neutral-

ising the French resistance, which was already expected with great apprehension. With this purpose, on 18 March 1931, the German AM instructs the German ambassadors in London, Paris and Rome to inform their host governments together with their Austrian colleagues of the agreement reached to negotiate the conclusion of a customs union which would be open to the accession of other states.

Phase 4: The end of the customs union project

The sky darkened despite all efforts. On 21 March 1931, the German ambassador in Paris reported on the *démarche* carried out together with the Austrian ambassador as instructed, that the French AM had expressed “sorrow”. Paris had no legal objections to Germany’s action, but Austria had violated the Geneva Protocol. Thus, France, Great Britain, Italy and Czechoslovakia would *démarche* together in Vienna. On 26 March 1931, the German Embassy in Paris followed up with a report that the French media’s tone was turning negative. On 29 March 1931, the German ambassador in Bern reported that since the matter was discussed at the meeting of the Commission for the Study of the European Union in Paris, the opinion that a customs union would violate the Geneva Protocol of 1922 was gaining ground. Meanwhile, on 4 April 1931, the German ambassador in Prague reports on his conversation with President Edvard Benes, during which the Czechoslovak president had threatened “war” or a “tariff war”.

Decisive for the further course of events, however, was an unexpected, external event: the world economic crisis. As a result, from April 1931 onwards the Austrian banking system was plunged into a crisis that threatened its very existence. Consequently, on 16 April 1931, the German AM writes to the chairman of the directorate of the Reichsbank asking whether it would be possible to set up a large account at the endangered Österreichische Kreditbank. Although we do not have any documents on this, this was apparently not possible. France, however, was well aware of the situation: on 17 June 1931 the German ambassador in Paris reported to his AM that AM Briand had asked several times whether he did not wish to declare that Germany would forego its plans for a customs union in order to enable France to fulfil the Austrian wish for a French loan. On the same day the German embassy in Paris reported that on 16 March the Austrian ambassador to France had been informed by the French AM that French banks would only be in a position to help Austrian banks if the

Austrian government formally declared that it would refrain from any initiative to change Austria's international status. There was only one way left: on 3 September 1931 the German and Austrian foreign ministers made a statement at the European Committee in Geneva that their countries would not pursue the project of a customs union.

The problem

In each of the four phases of the negotiation process presented, the question arises whether the "solution" chosen by the German and Austrian negotiating partners could have been a different and/or better one with the help of the use of AI.

If we analyse the course of events on the basis of the analytical framework introduced above on p. 7, it first becomes apparent with regard to **power resources** that both main actors considered Germany to be the stronger actor. Germany gradually took the reins, and Austria followed along the path that would ultimately lead to political unification as well. Soon, however, a power imbalance became apparent, with Germany/Austria on the one – weaker – side and the Allied Powers (which had occupied territories on the left and right of the Rhine until 30 June 1930) on the other. The central role was played by France, which could also count on the support of international institutions. Even Czechoslovakia, which was militarily weak, possessed considerable influence and thus its own power resources due to its alliance with France. Furthermore, the tableau of power resources changed decisively with the world economic crisis: now neither Germany nor Austria had the means to escape the economic emergency without outside help. France was quick to recognise this situation – in the end, the only option left to the two initiators of the customs union project was capitulation.

If we look at the **strategy** of the two initiators, they obviously agreed to deal with the simpler problems first: balancing Austria's economic weakness and moderating public opinion in both countries. Germany developed more differentiated thoughts on how to deal with the feared resistance of third states and on its next moves only after the negotiations were well under way. To this end, the project was to be completely stripped of its broader political objectives and was therefore only submitted to the international body responsible for economic issues in Geneva. In this context, both negotiating partners considered an offensive strategy to be useful in order

to push through their plans (which in the longer term very much went beyond the customs union): by insisting, in the relevant international institutions, on the right to establish a purely economically oriented union, they had hoped to overcome even the French opposition to the project. In the end, however, the only "strategy" left was to put a good face on the matter in view of the diplomatic defeat.

Perhaps a more detailed knowledge of the **personalities** of the negotiators could provide more information on their tactical considerations, which might shed light on a possible approach to the use of AI instruments. However, the AA documents – by their very nature – do not reveal anything in this sense; thus other sources would have to be consulted.

AI as the answer?

To sum up the events, at first, Germany and Austria focussed on clarifying a few of the minor economic issues. Regarding the internal relationship between the two actors, this seems rational and well thought out. In retrospect, however, it is obvious that the problem of resistance from other parties would have required earlier action. In the further course of events, the deliberate intention of the German negotiating side to deceive its international partners and even parts of its own cabinet (see above) reflects an awareness of possible resistance. Nevertheless, from today's perspective, what seems to have been lacking was a matrix for differentiated dealings with the various parties, and appropriately designed and adequate diplomatic measures. In the final stages of the project, Germany's strategy does not indicate how the customs union could be made a success in the face of French resistance. The failure of the project thus shows that Germany and Austria did not have the **means of power** at their disposal that would have allowed them to assert their own interests against serious resistance.

In retrospect, the question thus is whether other paths could have been taken. That is, would there have been ways to prophylactically deal with the expected resistance in a manner that could have helped the project succeed when the balance of power shifted? And could AI tools have helped to develop such strategies?

The case study shows how diverse the factors are that influence the course of even seemingly straightforward negotiations. In retrospect, and with extensive insight into the relevant documents, these

various factors and their interplay can be analysed in order to explain the dynamics of the negotiations.

As things stand today, however, it is difficult to imagine AI systems developing concrete strategic recommendations for such a negotiation case. However, a more “modest” way seems to be feasible, namely that of using AI systems for the automated development of scenarios, which in turn can provide indications for the strategic considerations of the negotiators.

Thinking in scenarios is not new for negotiators. For example, a submission by Political Department Head Gerhard Köpke for AM Curtius’s visit to Vienna on 23 February 1931 contains a comprehensive and forward-looking analysis concluding that an adjustment of the strategy pursued was necessary. The resistance of Czechoslovakia and its ally France is described here as central – in retrospect correctly. The French and Czechoslovak distrust could, according to Köpke’s suggestion, “perhaps” (sic) be remedied if Germany declared “beyond doubt its willingness” to “admit France and Czechoslovakia into the economic bloc as equal partners and thereby, renouncing power-political tendencies, finally secure the peace of Central Europe”. Since other attempts to improve the economic situation in Europe had proved unfeasible, this would “at least take away any moral basis for the resistance of our opponents (sic)”. Why these suggestions by Köpke were not taken up cannot be determined (at least by us). However, the paper shows the value of thinking out of the box in urgent situations.

The question thus is whether this requires experienced diplomats – or whether AI systems can be used for this purpose, at least in part. Promising, in this respect, are those AI systems that make gigantic amounts of human knowledge searchable. One of the most ambitious projects of this kind is the aforementioned Generative Pretrained Transformer (GPT) from OpenAI. IBM offers a comparable product with Watson, a system that competed against humans in the quiz game “Jeopardy” in 2011.¹⁴ In Germany, the

company Aleph-Alpha is working on building a similar system.¹⁵

The basis for these systems are databases of huge amounts of text. It is probably only a slight exaggeration when the developers behind these systems claim to process the (written) “knowledge of the world”. In the first step, these gigantic amounts of data are searched to discover semantic patterns. Here, the systems “learn”, for example, that certain information belongs to the same topic, that certain words are the names of specific persons or places – or that there are certain regularities in the way that words and phrases are combined in human language. In the second step, it is then possible to query the database, ultimately not unlike a classic internet search engine. However, the processing of the data along semantic patterns allows for much more comprehensive answers. For example, there are reports on how GPT “wrote” an entire book based on the references found in just one sentence.¹⁶

Such systems can also be used to create scenarios for future developments.¹⁷ It would be conceivable, for example, to “feed” the system with specific information in addition to the general stock of knowledge, such as newspaper reports on the topic or drafts of negotiation texts. By combining the general stock of knowledge with this specific information, the system could then automatically develop a series of scenarios at the push of a button.

¹⁴ John Markoff, “Computer Wins on ‘Jeopardy!’: Trivial, It’s Not”, *New York Times*, 16 February 2011, <https://www.nytimes.com/2011/02/17/science/17jeopardy-watson.html> (accessed 17 November 2021). See also “AI Is Transforming the Coding of Computer Programs”, *The Economist* (online), 10 July 2021, <https://www.economist.com/science-and-technology/2021/07/07/ai-is-transforming-the-coding-of-computer-programs> (accessed 21 June 2021).

¹⁵ Mike Butcher, “German Startup Aleph Alpha Raises \$27M Series A Round to Build ‘Europe’s OpenAI’”, *techcrunch.com*, 17 July 2021, <https://techcrunch.com/2021/07/27/german-startup-aleph-alpha-raises-27m-series-a-round-to-build-europes-openai/> (accessed 21 June 2021).

¹⁶ “Better Language Models and Their Implications”, *OpenAI*, 14 February 2019, <https://openai.com/blog/better-language-models/> (accessed 21 June 2021).

¹⁷ On the possibilities and methodological challenges of AI-based scenarios, see also Annegret Bendiek, Nadine Godehardt and David Schulze, *Beyond hard science? Algorithmen und die Szenario-Analyse digitaler geopolitischer Konflikte zwischen der EU und China*, DVPW Thematic Conference “How Relevant is Political Science?”, Working Paper no. 1, SWP Research Division EU/Europe (Berlin: Stiftung Wissenschaft und Politik, February 2020), https://www.swp-berlin.org/publications/products/arbeitspapiere/AP_Bendiek_Godehardt_Schulze_Beyond_hard_science.pdf (accessed 21 June 2021).

The goal would be to break through established mental categories with the help of automatically generated scenarios.

The objective here would not be to forecast the probable development. Rather, the goal would be to show a spectrum of possible developments and to break through established mental categories with the help of automatically generated scenarios. The assessment of the scenarios would still have to be carried out by humans. Some scenarios or aspects of scenarios would likely be simply implausible from the perspective of experienced diplomats, others politically undesirable.

To get an idea of how such a system would work in practice in a case like ours, we asked the company Aleph-Alpha to use its AI system to develop scenarios on the central question of the first case study. The input for the system consisted of the following summary by Aleph-Alpha of the above-mentioned instruction from State Secretary von Bülow to the German ambassador in France of 17 March 1931: “Should the French side approach you about the customs union or should the media take up the subject, show ‘not a trace of a bad conscience’. What we are undertaking is consistent with the pan-European idea. It is our indisputable right to consider first our own interests as well as those of Austria. Article 80 of the Treaty of Versailles is immoral because it takes away Austria’s right to self-determination.”

Based on this piece of text alone, Aleph-Alpha presented us with five automatically generated short scenarios in the form of possible continuations of von Bülow’s directive. Some of the resulting ideas were obviously unhelpful, such as the one that suggests Germany wanted to exclude Austria from the customs union. What is interesting, however, is the hint that Germany should try to integrate Czechoslovakia — worth bearing in mind especially because, according to the files of the AA, this consideration did not play a major role in the actual strategic considerations. If an AI system had presented such scenarios in 1930, it would have been the task of the diplomats to pick out from among these various “proposals” those insights that they had overlooked in their deliberations up to that point.

A single example like this does not allow for a general statement to be made about the performance of AI systems in the context of bilateral relations. Moreover, commercial services such as Aleph-Alpha’s

do not allow users to scrutinise how the underlying machine learning model works in detail — that is, at the level of algorithms, models and concrete databases.

Nevertheless, our small exploratory experiment confirms our initial assumptions about the performance of these kinds of AI systems. Namely, their strength lies in uncovering semantic patterns in a manner that avoids the many implicit presuppositions that each and every one of us carries with us (though the data often introduce a different kind of bias). However, this approach also points to a major weakness of these systems because they often lack the necessary contextual knowledge, at least at this stage. The result is that they often come up with suggestions that are obviously nonsensical to us as human observers.

The development of scenarios with the help of AI systems can be done at the push of a button.

Can such AI-based scenario building systems add value to diplomatic negotiations? In view of our guiding question, we tend to give a positive answer. The development of scenarios with the help of AI systems can be done at the push of a button and is thus significantly faster and cheaper than an elaborate, group-based process of “strategic foresight”.¹⁸ Whether the quality of the scenarios developed in this way is sufficient to generate a strategic advantage is difficult to judge at present. A clear advantage, as described, is that these systems approach issues with fewer presuppositions than humans do, which increases the chance of suggestions out of the box. The crucial question is whether such a system can be geared even more precisely than before to the specific needs of diplomatic negotiations in order to reduce the number of absurd suggestions and instead increase the proportion of relevant suggestions. This is worth examining systematically.

¹⁸ Lars Brozus, *Foresight Can Help in Preparing Better for Nasty Surprises*, SWP Point of view (Berlin: Stiftung Wissenschaft und Politik, 8 April 2020), <https://www.swp-berlin.org/en/publication/foresight-can-help-in-preparing-better-for-nasty-surprises/> (accessed 21 June 2021).

Case Study 2: The UN General Assembly Cybercrime Resolution

The second case study turns to the context of multi-lateral negotiations, taking a closer look at a resolution negotiated in the United Nations General Assembly (UNGA). This example is particularly suited for the purposes of this study because, unlike in the previous case, the UNGA represents a highly formalised negotiation situation. Also, in the case of the UNGA, a large amount of historical data on the behaviour of states is available. Unlike with the previous case study, the analysis does not rely on insights into the strategic considerations of the actors involved. Instead, this case study is focused on the public signals of states during votes and other formal procedures. These signals form “digital traces” that can, in principle, be used for automated data processing.

At the 74th session of the UN General Assembly in 2019, a group of states led by Russia introduced a resolution entitled “Countering the use of information and communications technologies for criminal purposes” (A/RES/74/247). The resolution’s goal was to initiate work on a new convention to deal with the issue of cybercrime.

For the actors involved, it was clear that such a new convention would directly challenge the so-called “Budapest Convention” of the Council of Europe, which entered into force in 2004 and is also supposed to regulate the handling of “cybercrime”. The Budapest Convention has so far been ratified by 65 states; Russia is the only member of the Council of Europe that has not signed, and thus also not ratified, the resolution.¹⁹

In recent years, some of the signatories of the Budapest Convention themselves have suggested to adapt it to new circumstances. Since the convention was conceived, the understanding of what “cybercrime” is has expanded. Not least, the importance of the topic has grown considerably because society’s dependence on digital technologies has continued to increase and, at the same time, serious cyberattacks have become more frequent.

In the discussion on Russia’s draft resolution, however, the signatories of the Budapest Convention – first and foremost the USA – expressed their concern that the new convention proposed by Russia could

undermine the mechanisms enshrined in the Budapest Convention for the protection of fundamental and human rights. Indeed, from this perspective the debate over a new cybercrime convention was perceived as a fundamental confrontation between liberal and authoritarian visions for the global digital order.

Background

The recent history of the negotiations over the cybercrime resolution begins a year earlier, when a precursor to the resolution was introduced in the General Assembly. On 2 November 2018, the draft resolution “Countering the use of information and communications technologies for criminal purposes” (A/C.3/73/L.9/Rev.1) was made public. The draft mandates the UN Secretary-General to prepare a report on the topic to collect the views of states on cybercrime.

In accordance with UN General Assembly procedures, the draft resolution was first discussed in the relevant 3rd Committee, where it was recommended to the General Assembly for adoption by majority vote.

On 17 December 2018, the resolution was put to a vote in the General Assembly (A/RES/73/187). Essentially, the result here was the same as the vote in the 3rd Committee: 94 states voted in favour of the resolution, 59 against, 33 abstained and seven did not participate. Of note, it is most unusual for resolutions in the UN General Assembly to be adopted with such a slim majority of yes-votes – which again underscores how controversial the issue was perceived.

In view of the above criteria for the course of diplomatic negotiations, two points about these first votes on the cybercrime resolution in session 73 are of particular importance:

In terms of **power resources**, a certain ambivalence remains. The voting results show that Russia was able to organise the necessary majorities. It managed to find broad agreement in the African regional group and also in the Asian regional group (where Russia was likely supported by the People’s Republic of China), but not in the Eastern European one (which formally still reflects an affiliation to the Soviet bloc of the Cold War era but today also includes states that are members of, or at least politically close to the EU). Finally, there seems to have been a close coordination between EU member states, as well as with allied states such as the USA, Canada and Japan.

¹⁹ Council of Europe, *Convention on Cybercrime* (2004), <https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/185> (accessed 17 November 2021).

Without having deeper insight into the considerations of the actors involved, it is difficult to draw conclusions about the underlying **strategic calculations**. However, some observations can be made: Russia seems to have deliberately chosen the forum of the UN General Assembly, particularly focusing on like-minded authoritarian states. This can be understood as an attempt to revise the outcome of the negotiations on the Budapest Convention through “forum shopping”, i.e. new negotiations in a different forum. Russia could rightly assume that it would find more support for such an initiative among the UN member states than in the Council of Europe. The resolution can also be understood as a kind of “test balloon”, which was intended to raise the topic and gain an overview of the states’ positions. Indeed, this is a typical approach within the UN, also pursued by other states such as the USA.²⁰ Last but not least, the specific task that the resolution assigns to the UN Secretary-General – collecting member states’ positions on the topic at hand – serves to gain a more precise overview of the preferences of the UN member states. It is also possible that Russia deliberately gambled that its opponents would offer less resistance to a resolution, which, though symbolically significant, had limited practical consequences.

Eventually, the dispute over the resolution turned into a conflict between the great powers. It seems that a relatively large number of states tried to stay out of this struggle by abstaining or not participating in the vote. Ultimately, however, the exact motives for a ‘non-vote’ remain speculative. In the literature on UN voting, non-votes are sometimes interpreted as quasi-abstentions, i.e. as a way to avoid a direct confrontation.²¹ In part, however, non-participation also seems to be an indicator of limited diplomatic capacities, and sometimes it may simply reflect indifference. In any case, in at least some of these cases it seems that diplomatic efforts of states that wanted to prevent the adoption of the resolution might have paid off.

²⁰ Thomas Gehring, Christian Dorsch and Thomas Dörfler, “Precedent and Doctrine in Organisational Decision-making: The Power of Informal Institutional Rules in the United Nations Security Council’s Activities on Terrorism”, *Journal of International Relations and Development* 22, no. 1 (2019): 107–35.

²¹ Samantha Power, *The Education of an Idealist* (London: William Collins, 2019), 416.

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With the adoption of resolution A/RES/73/187, the UN Secretary-General was mandated to collect comments from member states on cybercrime in the form of a report. This report was published on 30 July 2019 (A/74/130) wherein 61 states submitted comments.

From September 2019 onward, the topic was discussed several times in the 3rd Committee. The draft of the new resolution was published on 5 November 2019 (A/C.3/74/L.11/Rev.1) and introduced to the Committee by Russia on 7 November (A/C.3/74/SR.44). The new draft went beyond the previous year’s resolution: paragraph 2 now mandated the process to develop a new convention on cybercrime.

In addition to Russia, another 26 states were among the authors of the draft resolution. Of the total of 27 authoring states, 19 were also authors of the resolution in the previous year. Another 28 states declared themselves “sponsors” of the draft resolution before the vote in the 3rd Committee (A/74/401).

At the 3rd Committee meeting on 18 November 2019, the draft resolution was adopted. A total of 88 states voted in favour, 58 against, 34 abstained (which means that 13 states did not participate in the vote).

On 27 December 2019, the resolution was adopted in the General Assembly (A/RES/74/247). Here, 79 states voted in favour of the resolution, 60 against, 33 abstained and 21 did not participate in the vote. Some aspects are worth highlighting:

- 10 states that had voted in favour of the resolution in the 3rd Committee abstained or did not participate in the vote in the General Assembly.
- The (then still) 28 EU member states unanimously voted against the resolution.
- Of the 54 member states of the African Group of States, 31 voted in favour of the resolution, eight abstained, 14 did not participate and one state voted against the resolution (Cape Verde).

From the perspective of Germany and its allies, this result is a defeat. Unlike the previous year, from the moment the draft resolution was published on 5 November 2019, it was clear that it would have tangible consequences. For the resolution’s opponents, thus, it was even more important to ensure that the resolution was not adopted. Based on the experience of the previous year, it had to be expected that this decision, too, would be a close one.

Returning to the analytical framework introduced above, the **power relationships** remained somewhat ambiguous in session 74. Russia and its allies were

able to push through the resolution against the largely united opposition of the Western states. Yet, support in the General Assembly was even lower than in the previous session: with 79 states, only 41% of the member states voted in favour of the resolution.

In terms of **strategy**, as in the previous year, the comparatively high number of states that avoided taking a clear stance on the issue is remarkable. It can be assumed that both the supporters and the critics of the resolution lobbied states for support on the matter. Yet, 15 votes were lost in support of the resolution, and the opponents gained only one. With 33 states, a large number of states avoided taking sides by abstaining. In addition, 21 states did not participate in the vote. As in the previous year, this number is above average; for the last 10 years, the average number of states *not* participating in controversial resolutions is 13.8.

The problem

After the “test balloon” of the first cybercrime resolution in 2018, it had become apparent that there would be a sharp confrontation between the two main political camps on the topic. The supporters of the resolution were led by Russia and could count on the support of the P5 state China. The opponents of the resolution were led by the USA and had the EU – and thus also the remaining P5 states France and Great Britain – on their side.

In 2018, it was also already clear that the supporters of the original resolution would want to push the issue further. The main challenge for the opponents of the resolution was therefore to achieve a majority against the resolution by the time of the vote on the new version in the 3rd Committee, or, if necessary, in the General Assembly.

A first step to approach this challenge is to identify those states that can be clearly assigned to one of the two sides of this confrontation:

- 23 states were authors of the draft resolution in session 73, and another six declared themselves as “sponsors” of the resolution in the respective session of the 3rd Committee. These public signals from a total of 29 states are to be understood as a strong “commitment”, so that it could be assumed that these states would also support a follow-up resolution in session 74. (In fact, of these states, 26 voted in favour of the resolution at the vote in session 74, two abstained, and one did not participate).

- As can be seen from the minutes of the 3rd Committee meetings in 2018 (A/C.3/73/SR.47), Australia, the USA and Japan were already clearly opposed to the resolution at that time. In addition, Austria expressed the EU’s intention to vote against the resolution. At this point, 31 states had clearly declared themselves as opponents of the resolution. (In fact, of these states, all 31 voted against the resolution at the vote in session 74).
- In sum, 60 states had thus already taken a clear position. In contrast, the future voting behaviour of the remaining 133 states was still open, at least to a certain extent. Their voting behaviour in session 73 could give an indication of their probable behaviour in the future. At the same time, however, it would have been rash to simply assume that these states would behave in the same way in the following year.

AI to the rescue?

The question at this point is whether it is possible to use AI analyses in cases like this to gain information about the preferences of states and their likely voting behaviour. Based on the information available about the opponents of the resolution at the time, would it have been possible to use AI to identify those states that might be inclined to consider changing their position – and thus to bring about a rejection of the resolution?

An important difference to the first case study is that we are dealing here with a comparatively large number of states. In principle, it would also be conceivable to try to obtain as precise a picture as possible through individual consultations with all 133 states. However, this would require a considerable amount of personnel, especially if such consultations had to be carried out shortly before each vote. In this case, however, a number of “signals” are available as data, e.g. on previous voting behaviour, authorship of resolutions, and membership in regional groups and international organisations. In short, the question is whether it is possible to make use of this information with the help of AI. This, in turn, leads to questions of data collection as well as data analysis.

Data collection

Data on the voting behaviour of UN member states on resolutions in the General Assembly are available for all votes since the establishment of the UN (see box “A new dataset on voting behaviour in the UN Gen-

Box 1

A new dataset on voting behaviour in the UN General Assembly

In October 2021, SWP published a new dataset on voting behaviour in the UN General Assembly. The dataset contains information on voting behaviour in the General Assembly as provided by the UN through the Digital Library. The dataset starts with session 49 (1995/1996) and currently extends to session 74 (2019/2020). The UN assigns keywords to all resolutions that are meant to reflect their content. For the dataset, these keywords were used to group the resolutions into issue categories. The dataset itself and further information are available via GESIS: <https://doi.org/10.7802/2297>.

eral Assembly”). It should be emphasised, however, that over the past decades, on average only 23 percent of all resolutions in the General Assembly per year have been controversial enough to require a formal vote. The remaining resolutions were unanimously adopted without a vote.

Moreover, in the UN General Assembly it is common practice to introduce resolutions on the same subject in a slightly different form every year or every two years. These recurring resolutions often provide an opportunity to examine the voting behaviour of states over many years.

The voting behaviour of states in the General Assembly has long been the subject of political science research, going back all the way to the early days of the UN.²² This research offers insight into what factors might be relevant in identifying the likely behaviour of states on a particular resolution. These factors include data on regime type, changes of government, the economic performance of states, and membership in the regional groups of the UN and other international organisations.

In addition, it is, in principle, possible to obtain further information on the preferences of states regarding a specific resolution by drawing on what has been discussed above in terms of automated media monitoring. Many UN ambassadors, for

example, are present on various social media platforms. The statements on these platforms could be automatically analysed to check whether they express opinions on a topic or even a specific resolution.

Another possible source of information are the statements of the member states in the relevant UN committees. These could be processed with the help of automated text analysis tools (“natural language processing”, see above). In the specific case of the cybercrime resolution, for example, the Secretary-General’s report of July 2019 (A/74/130), contains the statements of 61 member states on the topic of the resolution. Among the 61 states that submitted their comments are 29 states of the group of 133 states identified above as still somewhat undecided. It is instructive, for instance, that a number of member states’ statements contain positive references to the “Council of Europe”, which can at least be understood as indicating a certain reluctance towards Russia’s initiative. Even a cursory search shows that “Council of Europe” appears 115 times in this document. With the help of sentiment analysis tools, it should be possible to automatically identify whether the reference is positive or negative. This could be quite helpful when dealing with large amounts of data; in this specific case, though, it might still be easier to manually analyse the 61 statements in order to be able to use them as input for further data analysis.

Data analysis

Once all this information has been compiled, the result is a fairly comprehensive dataset – even for just one resolution. If similar information is collected for all resolutions in the context of the UN, the amount of data reaches a considerable scale.

In the first step, such data collection allows for targeted queries on past events. This is the kind of information used above in the presentation and discussion of this case study, such as detailed evaluations of voting results. The US State Department, for example, has been producing annual reports to Congress since the 1980s that quantitatively evaluate the voting behaviour of states in the UN. The focus here is on how often states voted with or against the USA.²³

Going further, it is promising to examine such data collections with the kind of machine-learning algo-

²² Michael A. Bailey et al., “Estimating Dynamic State Preferences from United Nations Voting Data”, *Journal of Conflict Resolution* 61, no. 2 (2017): 430–56; Samuel Brazys and Diana Panke, “Why Do States Change Positions in the United Nations General Assembly?” *International Political Science Review* 38, no. 1 (2017): 70–84.

²³ U.S. Department of State, “Voting Practices in the United Nations, 2019” (Washington, D.C., 2020), <https://www.state.gov/voting-practices-in-the-united-nations/> (accessed 17 November 2021).

Table 1

States with a high probability of changing their voting behaviour in session 74 (sorted by their voting behaviour in session 73)

<i>Yes in session 73</i>	<i>No in session 73</i>	<i>Abstention in session 73</i>	<i>No participation in session 73</i>
Angola, Benin, Burkina Faso, Congo – Brazzaville, Dominica, Guinea-Bissau, Somalia, South Sudan, São Tomé & Príncipe, Seychelles	Albania, <i>Canada</i> , Chile, Dominican Republic, Micronesia (Federated States of), Georgia, Honduras, Kiribati, <i>South Korea</i> , Marshall Islands, Panama, Solomon Islands, Tonga, <i>United States</i> , Vanuatu	Congo – Kinshasa, Fiji, Grenada, Liberia, Samoa	Afghanistan, Central African Republic, Comoros, Sierra Leone, Eswatini, Trinidad & Tobago, Tunisia
(10 states)	(15 states)	(5 states)	(7 states)

rithms available today. This holds out the prospect of finding patterns in the data that have so far escaped the human eye. Like with other AI applications, these patterns can then be further used to form predictions.

In the specific case considered here, the idea would thus be to forecast the behaviour of the 133 states that cannot be clearly assigned to one of the sides of the debate. This then would make it possible to identify those states that are most likely to be genuinely undecided – and thus might be most amenable to diplomatic efforts by the resolution’s opponents. The question thus is whether the publicly available signals from the states suffice to conduct such an analysis.

We further explored this question by way of a pilot project (see box “Pilot project to predict voting behaviour in the UN General Assembly”). With this project, we developed an AI model to predict the behaviour of states vis-à-vis controversial votes. More specifically, we focused on predicting changes in voting behaviour on recurring resolutions. The data used for this prediction consist of information on historical voting behaviour as well as further information on UN member states (regime type, membership in international organisations and regional groups, diplomatic capabilities and economic data).

Let us put ourselves once again in the situation of 7 November 2019, when Russia first introduced the new draft resolution. If our model had been used in this case, given a certain configuration, it would have produced a list of 37 states with a high probability of

changing their voting behaviour.²⁴ The following table lists the states, ordered by how they had behaved in the last vote.

Looking at this list, three states stand out as obviously implausible predictions: knowing the larger context of the upcoming resolution, it was not to be expected that the USA and its close allies Canada and South Korea would change their position. This leaves a list of 34 states.

Based on this analysis, it would have been advisable for Germany and its allies to concentrate their diplomatic resources on these states. As a reminder, in session 73, 94 states voted in favour of the resolution, 59 against, 33 abstained and seven did not participate. If the 10 states in the first column had been persuaded to back away from their yes vote, a rejection of the resolution would have been within reach.

In retrospect, with knowledge of the actual voting behaviour in session 74, it is possible to consider the quality of this AI-based recommendation. Although an individual case does not in itself allow any generalised statements to be made about the performance of a forecasting model, in this case the results are in fact quite representative of our broader insights from the pilot project. If one starts from the 34 states (i.e. the forecast of originally 37 states corrected for basal “expert knowledge”), the results are as follows:

²⁴ For the specifics of our approach in this specific case see <https://bit.ly/SWP21S18Anhg> (in German only).

- 21 “true positives”, i.e. correctly predicted changes
- 13 “false positives”, i.e. falsely predicted changes
- 140 “true negatives”, i.e. correctly predicted non-changes
- 19 “false negatives”, i.e. changes that were not predicted.

This result illustrates that forecasts of this kind are often accompanied by a relatively high error rate. Nevertheless, the forecast was correct in a good 60 per cent of cases and could thus have made a contribution to the targeted use of diplomatic resources.

AI systems should be combined with the practical knowledge of diplomatic experts.

The brief remarks on this example also show that it is of particular value for such systems to be combined with the practical knowledge of diplomatic experts. Admittedly, no special expertise is necessary to realise that the USA, as declared opponents of the resolution, would probably not deviate from its no vote. But an experienced diplomat familiar with the matter at hand might have noticed other points when looking at the results of the AI analysis, for instance the tendency of states to act in line with their regional groups. Such human expertise could be used to further improve the results and thus make them more helpful. Moreover, it seems promising to continuously combine the initial results of the forecast with further signals collected during the course of the political process, for example with the results of the vote in the 3rd Committee.

As with the previous case study, the question is whether such a system can offer strategically relevant “added value”. It seems indisputable that the automated evaluation of the various signals of all member states can be carried out faster by an AI system and with a lower error rate than by humans. However, for a comprehensive assessment of efficiency, it is also important to consider the effort involved in setting up such a system. This, in turn, ultimately leads to the question whether the quality of the forecast justifies the effort. The forecast would have to be at least as good as the forecasts developed by diplomats using traditional methods. Actual added value, however, would only be given if the forecasts were better than human forecasts and/or could be produced more quickly and/or with fewer resources. On this point, a final assessment is not yet possible and, indeed, would require more extensive practical experience

Box 2

Pilot project to forecast voting behaviour in the UN General Assembly

To be able to assess the potential of AI for predicting the voting behaviour of states in the UN General Assembly, we conducted a pilot project and thus gained practical experiences in applying machine learning methods in this context. For this pilot, we regularly exchanged ideas with the German Foreign Office. As meetings with other foreign ministries made clear to us early on, the possible application of AI in the area of foreign policy is politically sensitive. We are therefore even more grateful to the Federal Foreign Office, and in particular to Unit S05-09/PREVIEW – Early Warning, Analysis, Information Management, for the trust they placed in us for the purposes of this project.

The project used the new SWP dataset on voting behaviour in the UN General Assembly. From this dataset, we selected a subset of resolutions, namely recurring controversial resolutions in the field of human rights. We combined the voting data for this subset with further information on the level of states (e.g. regime type, membership in organisations). From this combined dataset, we used UN sessions 49 to 72 as training data to predict which states are likely to change their voting behaviour on the recurring resolutions in the following sessions 73 and 74. Since we had the real voting results from these two sessions, we could measure the accuracy of the prediction against the actual voting behaviour.

The result of this pilot project was similar to that outlined in the case study concerning the cybercrime resolution: in principle, this kind of forecast seems feasible but the quality of the forecast is not yet satisfactory. The price of correctly forecasting the majority of changes in state positions is a large number of “false positives”. The model also seems to work differently for different countries, and we have not yet found an explanation for this. However, by further refining the model and maybe also adding further data it seems possible to us to further improve the quality of the forecast. In any case, it is advisable to design such a system in such a way that the empirical knowledge from diplomats’ practice can be integrated.

Further information on the pilot project, in particular more details on the preliminary results, can be found on the SWP website (in German only):
<https://bit.ly/SWP21S18Anhg>

and an accompanying evaluation. However, the experiences with the pilot project as well as with AI analyses in other areas are certainly promising enough to further explore this path.

In this context, finally, it is also interesting to compare the AI approaches: the goal of the possible use of AI in the second case study is to find structures within relatively large amounts of historical data. The guiding assumption here is that there are politically relevant regularities in the activities of states that have not yet been discovered through traditional means of analysis. This methodological approach, however, is not suited to indicate possible “disruptions”, i.e. surprising events that cannot easily be forecast. For these purposes, however, the kind of AI-driven scenarios discussed in the context of the first case study is promising: as noted above, it can be a tool to question well-established patterns of thought. Not least, this again highlights that it will be crucial for the practical use of AI in the context of diplomatic negotiations to be very clear about the functionality, and limits, of different AI approaches, and to combine them as necessary for the practical purpose at hand.

AI as an Instrument for Diplomatic Negotiations

Can the actors involved in diplomatic negotiations benefit from AI analyses? We investigated this question by considering two different negotiation situations. These concrete examples have already illustrated some of the possibilities, and limits, of the use of AI. So now, drawing on these two examples we will examine more systematically for which aspects of diplomatic negotiations these AI approaches might be suitable.²⁵

Power resources

In the classic realist understanding of international politics, the power resources of the actors involved in diplomatic negotiations are, to a large extent, defined in a way that can be analysed quantitatively. The military resources and economic performance of a country, for example, can be captured in numbers that can reasonably well be compared. Certain changes, too, can be depicted in this way, for example, on the basis of economic indicators. In the case of the negotiations for a German-Austrian customs union, for example, during the period of the negotiations the economic crisis in Austria worsened to an extent which negatively affected Austria's power in its internal relationship with Germany and, above all, with the other European powers – and which, therefore, also had an impact on the negotiation process.

²⁵ See DiploFoundation, *Mapping the Challenges and Opportunities of Artificial Intelligence for the Conduct of Diplomacy* (Geneva, 2019), <https://www.diplomacy.edu/sites/default/files/AI-diplo-report.pdf> (accessed 5 November 2021); Corneliu Bjola “Diplomacy in the Age of Artificial Intelligence” (CSS Blog Network: 8 November 2019), <https://isnblog.ethz.ch/technology/diplomacy-in-the-age-of-ai> (accessed 5 November 2021).

To be sure, evaluating the economic data of a single country does not require AI analysis. However, it is conceivable that with the help of an AI system the many economic indicators available today could be analysed more quickly and comprehensively in search for patterns that might shed light on the future power resources of states in the context of specific diplomatic negotiations.

Automated news analysis can be used to generate an analytical snapshot of a strategic situation.

Different variants of early warning systems can be used as a starting point for this. Transnational companies, for example, use methods of automated news analysis in order to be informed as early as possible when conflicts are brewing in regions of the world that are of interest to them and that could influence their activities. For these analyses, it is crucial not only to identify general trends but also to identify specifically those developments that affect the interests of a particular company. While publicly available information is scarce, it can be assumed that intelligence services,²⁶ militaries²⁷ and increasingly also

²⁶ Ronja Kniep, “Another Layer of Opacity: How Spies Use AI and Why We Should Talk about It”, *about:intel* (online), 2019 – 12, <https://aboutintel.eu/how-spies-use-ai/> (accessed 7 April 2020).

²⁷ Björn Müller, “Bundeswehr setzt auf Software: Die Krisen von Morgen erkennen”, *Frankfurter Allgemeine Zeitung* (online), 4 July 2018, <http://www.faz.net/aktuell/politik/inland/bundeswehr-die-krisen-von-morgen-erkennen-15670056.html> (accessed 8 October 2018); Andrew Lohn, “What Chess Can Teach Us about the Future of AI and War”, *War on the Rocks*, 3 January 2020, <https://warontherocks.com/2020/01/what-chess-can-teach-us-about-the-future-of-ai-and-war/> (accessed 4 February 2020); Mara Karlin, *The Implications of Artificial Intelligence for National Security Strategy* (Washington, D.C.: Brookings Institution, 1 November 2018), <https://www.brookings.edu/reports/artificial-intelligence-for-national-security-strategy/>

foreign ministries²⁸ use similar methods of automated news analysis to generate analytical snapshots of strategic situations.

Things get more difficult, on the other hand, in all those cases in which the power of a state does not build on resources that are readily quantifiable. These can include symbolic resources, formal and informal alliances or alliances and modes of cooperation, or relations with internationally influential non-state actors such as transnational corporations or NGOs. Small island states, for example, receive special attention in global negotiations on climate protection issues because they are so directly affected by the threat of rising sea levels. In this way, they gain negotiating power that far exceeds what could be expected on the basis of classic indicators of military and economic strength. Another decisive power resource for negotiations are a state's diplomatic capacities. A rough indicator of this is the number of embassies a state maintains worldwide, or their size. So far, however, these data have not been collected comprehensively for all states. In addition, it is always possible that, in a specific negotiation, a state with a supposedly low level of diplomatic capacities is represented by particularly competent diplomats. As things stand today, an AI system would be blind to this kind of "statistical deviations".

Strategy

A state's strategy can be analysed in various ways. At the very least, however, it is to be considered what goals a state is pursuing and how it is likely to act in the further course of the negotiations.

When a state enters into diplomatic negotiations, it does so to pursue a goal. The outcome of the negotiations will depend on whether, or to what extent, this goal converges with the goals of the other parties involved. As Iklé nicely puts it, "Without common interest there is nothing to negotiate for, without

conflict, nothing to negotiate about".²⁹ However, as in interpersonal communication and interaction, in some negotiation situations it may be tactically advantageous from the point of view of all or some of the parties involved not to communicate their own goals transparently, or even to send misleading signals.³⁰ In order to achieve the best possible outcome in diplomatic negotiations, states try to interpret the signals of their counterparts in order to determine how far they can go in their demands without risking the agreement in its entirety.

A possible contribution of AI-based analyses in this context could be to evaluate and correlate a larger number of signals regarding the strategy of the states involved than is possible for humans. Ideally, such analyses would help the involved actors to systematically check their own presuppositions and discover blind spots.³¹

A number of foreign ministries have already set up "strategic communication" units, whose tasks it is to systematically monitor what is happening in social media as well as in traditional media.

The challenge here is to configure or further develop these systems in such a way that they can provide specific analyses related to a concrete negotiation. It is conceivable, for example, to automatically analyse all publicly available news sources, in real time, to see whether representatives of a state make statements that offer insights into the state's internal deliberations relevant to an ongoing negotiation. This could include public statements, but also trips by high-ranking diplomats or reports on meetings with domestic interest groups. In this way, it might be possible to identify all those foreign and domestic political developments that influence a negotiation, for example, whether a critical view of a negotiation prevails in the domestic media or if there is a dispute within the government (see Case Study 1, p. 11). Another source can be official signals from the state in the form of voting behaviour within the framework of international organisations such as the UN and its specialised agencies (see Case Study 2, p. 17) or

brookings.edu/research/the-implications-of-artificial-intelligence-for-national-security-strategy/ (accessed 7 May 2019).

28 Marco Seliger, "Vorher wissen, wo es knallt. Wie Deutschland versucht, sich besser für internationale Krisen zu wappnen", *Frankfurter Allgemeine Zeitung* (online), 15 February 2018, <https://www.faz.net/aktuell/politik/inland/deutschland-wappnet-sich-fuer-krisenszenarien-15448882.html> (accessed 17 November 2021).

29 Iklé, *How Nations Negotiate* (see note 8), 2. See also Jönsson and Hall, *Essence of Diplomacy* (see note 1).

30 Ira W. Zartman and Jeffrey Z. Rubin, eds., *Power and Negotiation* (Ann Arbor: University of Michigan Press, 2002), 13.

31 On this point, see also the work of Bruce Bueno de Mesquita who combines game theory with data analyses for the purposes of prediction; for example in: Bueno de Mesquita, *Prediction. How to See and Shape the Future with Game Theory* (London: Vintage Books, 2010).

Figure

Units for “strategic communication” or “media monitoring”

State or organisation	Unit	Scope
Australia	Department of Foreign Affairs and Trade	Tracks online conversations in real time; web and social media reporting and analysis tools that identify influential groups and conversations; tracks sentiment towards Australian politics; measures the department’s global social reach; reports on campaign progress.
Denmark	Interministerial Task Force: Ministry of Justice, Ministry of Defence and Foreign Affairs	Monitors influence campaigns (disinformation); focuses on Russian influence.
Germany	Federal Foreign Office, “Strategic Communication Division”	Monitors narratives and trends in social media to counter disinformation.
European Union	East StratCom Task Force	Monitors disinformation; focuses on Russian influence in eastern neighbourhood.
France	Ministry of Europe and Foreign Affairs, Centre d’analyse, de prévision et de stratégie (CAPS)	Monitors disinformation campaigns, harmful narratives, media ecosystems, bots and trolls.
NATO	NATO StratCom Center of Excellence, Latvia	Monitors automation, bots and trolls.
Sweden	Swedish Defence Research Agency	Monitors interference activities that pose threats to democratic elections.
Czech Republic	Ministry of the Interior, Centre against Terrorism and Hybrid Threats	Monitors disinformation, foreign propaganda and terrorist threats; focuses on Russian influence.
USA	Department of State, Office of Strategic Communications and Outreach	Develops strategic communication planning for outreach activities of the State Department’s Bureau of International Security and Nonproliferation (ISN)
United Kingdom of Great Britain and Northern Ireland	The Foreign and Commonwealth Office, Digital Strategy	Monitors social media to track key influencers and voices in policy areas; measures perceptions of key foreign policies.

also in regional organisations such as the EU and the AU. Information of this kind is already being collected today: the question is whether AI systems can be used to analyse more of these data more quickly and reliably. The sheer amount of information that already needs to be analysed is an argument in favour of this approach. The amount of available data increases even further if publicly available information were combined with the data collections available to government institutions, such as those provided by intelligence services or the diplomatic missions distributed

around the world. Such a combination of public news sources, social media and classified government information would likely create such a high volume of information that the analysis could only be done if automated.

A few pieces of information on the website of the US State Department indicate similar considerations. Within the framework of work on the Instability Monitoring & Analysis Platform (IMAP), the State Department also seems to be interested in forecasting the behaviour of states in negotiation situations:

Sources to Figure:

Australia: Department of Foreign Affairs and Trade, *Digital Media Strategy 2016–18* (Barton, 2016).

Denmark: Ministry of Foreign Affairs of Denmark, “Strengthened Safeguards against Foreign Influence on Danish Elections and Democracy” (7 September 2018), <https://perma.cc/WGH9-M2L3>

Germany: Auswärtiges Amt, “Außenpolitik strategisch kommunizieren – Werte und Interessen gezielter vermitteln” (Berlin, 25 May 2018), <https://www.auswaertiges-amt.de/de/aussenpolitik/themen/-/2089138>

European Union: European Council, *Questions and Answers about the East StratCom Task Force* (28 April 2021), https://eeas.europa.eu/headquarters/headquarters-homepage/2116/-questions-and-answers-about-the-east-stratcom-task-force_en

France: The Policy Planning Staff (reports to the Minister for Europe and Foreign Affairs), *Information Manipulation. A Challenge for Our Democracies* (Paris, 2018), https://www.diplomatie.gouv.fr/IMG/pdf/information_manipulation_rvb_cle838736.pdf

NATO: NATO, Strategic Communications Centre of Excellence, <https://www.stratcomcoe.org/>

Sweden: Swedish Defence Research Agency, “The Swedish Election and Bots on Twitter” (Stockholm, 12 September 2018), <https://www.foi.se/en/foi/news-and-pressroom/news/2018-09-12-the-swedish-election-and-bots-on-twitter.html>

Czech Republic: Czech Ministry of the Interior, Centre Against Terrorism and Hybrid Threats (Prague, 2018), <https://www.mvcr.cz/cthh/clanek/centre-against-terrorism-and-hybrid-threats.aspx>

United Kingdom of Great Britain and Northern Ireland: The Foreign and Commonwealth Office, *Digital Strategy* (London, 2012), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/39629/AB_12-11-14_Digital_strategy.pdf

(All links accessed 14 September 2021)

“*Negotiations Modelling*: CSO informs political negotiations by identifying the interests and priorities of key actors, and forecasting negotiation outcomes. It updates information throughout the negotiations process to assess options and optimize U.S. policy outcomes.”³²

Another starting point is AI-based text analysis of diplomatic documents (“natural language processing”). Ideally, AI-based media monitoring would capture not only the mere fact that a state representative has spoken on the topic of a negotiation but also whether the statement had a positive or negative tone, or expressed a certain sense of urgency (cf. the explanations on “sentiment analysis” on p. 10).

The more extensive the amount of data to be analysed, the greater the added value of AI-based analyses.

For the specific context of a negotiation situation, such AI-based methods of text analysis would be particularly helpful for sifting through large quan-

ties of documents in the context of complex negotiations. For example, this could allow for reliably and quickly checking how different versions of a negotiating document differ from one another. In multilateral negotiations, these analysis methods could also be used to determine whether different actors are proposing similar changes. This kind of analysis is also already taking place today, but it is often costly and lengthy. The more extensive the amount of data to be analysed, the greater the added value of AI-based analyses. This, in turn, suggests that such an AI-based approach is particularly suitable for complex multilateral negotiations; however, it is also conceivable that such methods could be used in lengthy bilateral negotiations to maintain an overview of all relevant documents. Indeed, it is possible that diplomatic documents are particularly suitable for machine analysis due to the comparatively highly formalised use of words and phrases in the practice of diplomacy: in principle, with these documents it should be easier to find structures and deviations from structures than in much less formalised everyday communication.

³² U.S. Department of State, “Instability Monitoring & Analysis Platform (IMAP). Bureau of Conflict and Stabilization Operations”, <https://www.state.gov/about-us-bureau-of-conflict-and-stabilization-operations/instability-monitoring-and-%20analysis-platform/> (accessed 5 November 2021).

Personalities

The dynamics of negotiations are also shaped, at least to a certain extent, by the personal interactions of the participants. Knowledge about the personality profile of a counterpart can be an advantage here. Today, this kind of knowledge is usually exchanged informally among diplomats; in the case of particularly important negotiations, it can be assumed that at least some states also commission their intelligence services to create corresponding profiles.

To the extent that negotiators appear in the media, they leave behind “digital traces”, whether in the form of texts, images, videos or audio recordings. It is conceivable to use methods of AI-based profiling, familiar from the context of “targeted advertising” for commercial purposes, to automatically create profiles of diplomatic actors. However, this would require further debate over whether this kind of comprehensive evaluation of diplomats’ personal data is legally and morally permissible – and whether the form of diplomatic practice that such use of AI might lead to is politically desirable overall. In addition, this use of AI would again lead to questions about the quality of the analysis. Very general categories such as “interested in classical culture” would probably be of little help; more precise classifications such as “prone to outbursts of rage” would be of greater value but are even more at risk of wrong generalisations based on unrepresentative data.

The interaction of different influencing factors

The three aspects highlighted here – power resources, strategies and personalities – are part of the overall context of all those internal and external influences that can shape the course of negotiations. In the case of the negotiations on the customs union, for example, the deterioration of the global economic situation had a discernible impact on the course of the negotiations.

It is logically conceivable to describe the totality of all aspects that might possibly influence a negotiation. The combination of this information would make it possible to search for patterns in the data to “calculate” the probable outcome and, on this basis, offer strategic recommendations to the actors involved.

If all the necessary information is available, then no prior theoretical assumptions about the expected

interactions are required. All that is needed is parsimonious modelling that provides information about the relevant actors and the options for action available to them. On this basis, all conceivable developments can be played out, at least in principle, in order to arrive at the desired analysis results. In simplified terms, this is the procedure that AI systems use today to master games such as chess or Go.

The central problem here is that it is often very time-consuming and, in many cases, outright impossible to gather all possibly relevant information.

The central problem here, however, is that it is often very time-consuming and, in many cases, outright impossible to gather all possibly relevant information. Firstly, unlike chess, diplomacy is not a clearly defined and limited game but rather a sequence of games with different players, and rules that the players themselves can change at any time. Secondly, these games overlap: as complex as negotiations are in and of themselves, a further complication is that diplomatic negotiations are often linked to other negotiations. Thirdly, the options available to states in diplomatic negotiations are very diverse. Although almost all negotiations are framed by certain normative expectations, these are often weak: unlike in a chess game, it is often possible for the actors to disregard rules, to set new rules or simply to leave the playing field of a concrete negotiation situation. This makes it difficult to conclusively and completely list the set of possible options for action.

The problem is that we are dealing with too much largely unstructured information, even compared to the current possibilities of automated data processing. One conceivable alternative would be to reduce the complexity of a negotiation situation to such an extent that it can be captured in a comparably simple model. The problem with this, however, is that today’s game-theoretical models would require a level of simplification that would very likely run the risk of missing essential elements of the negotiation situation.

Another possibility could be to use an AI system that draws on the knowledge of the world, such as the one we experimented with for the first case study on the customs union negotiations. In a certain sense, the possibilities of such a system seem to go beyond current AI systems: the more limited, but potentially still useful approach here would be not to use AI to

accurately predict future developments but to quickly develop a variety of scenarios and thereby challenge established lines of thinking.

It seems that so far, for our kind of information problems human intelligence is still superior to artificial intelligence.

In any case, it seems that so far, for our kind of information problems human intelligence is still superior to artificial intelligence. As humans, we can absorb and process enormous amounts of information. This gives rise to what is casually expressed as a “gut feeling”. In the context of politics, a more apt and elegant term for this is “political judgment” as understood by, for instance, Hannah Arendt: in complex decision-making situations, as human beings we are often not fully aware of why we tend to make a certain assessment. It is possible, however, that what is somewhat hidden here even to ourselves is actually the quite impressive “computing power” of our brain – which, in principle, would make it possible to replace our brain with a machine.

Recommendations for German Diplomacy

Our conclusion is that artificial intelligence has the potential to become an important, possibly indispensable tool for preparing and conducting diplomatic negotiations. In our opinion, there is much to suggest that in the future, those who best succeed in embracing the possibilities of machine learning will have an advantage in negotiations.

The two case studies use concrete examples to show how AI, as we know it today, can be used for the purposes of diplomatic negotiations. In the case of the customs union, we used AI as an example to make use of qualitative data in a complex bilateral negotiation situation to identify possible divergent negotiation options. The second case study, on the negotiations over the cybercrime resolution in the United Nations, illustrates how quantitative data can be used to predict the behaviour of states in multilateral negotiations. These possible applications of AI are not exhaustive but they help to focus the otherwise often very abstract discussion about the conceivable benefits of AI and link it to the practice of diplomatic negotiations.

It is precisely the detailed examination of concrete cases that also shows that today's AI systems are still quite error-prone. Another problem is that with today's AI systems it is difficult to trace why and how exactly they arrive at certain results. There are approaches to "explainable AI" but if the advantage of AI systems is that they can evaluate more information more quickly than humans can, the price for this performance will probably always be that humans will continue to struggle to come close to understanding how an AI system "ticks".

Finally, and more fundamentally, AI does not have what we commonly call "political judgement". At best, AI systems can provide better information faster than humans can. However, assessing the quality of this information and combining it with the practical knowledge of practitioners remains the task of humans.

If German foreign policy wants to strategically prepare itself, in the medium to long term, to use the potential of AI, on the basis of the two case studies and the subsequent considerations, we recommend the following lines of action. Given the rapid progress in the field of AI, these should be pursued promptly.

Courage to experiment and explore further

1. Current AI systems have major limitations. And yet, they also exhibit a potential that encourages further practical exploration. AI models trained with the help of large amounts of texts – aiming to encompass "all the knowledge in the world" – hold the potential for new forms of automated scenario building for the purposes of strategy formation and could thus provide concrete guidance for the conduct of negotiations. Such possibilities should be actively and widely experimented with. This requires cooperation with those research units that already have the relevant AI tools at their disposal.

2. AI-based analyses of public sources in the context of negotiations represent a more modest approach than the one just mentioned. The potential of this kind of analysis, however, also warrants further exploration. By examining publicly available data – from "signals" such as voting behaviour in international organisations and state visits to public statements in various media – it should be possible to draw up strategic "maps" of the sentiments and opinions of the states directly or indirectly involved in negotiations. These, in turn, could be used on the reasoning that informs the decision making of the states in preparing for, and conducting, negotiations. Here, close cooperation should be sought with institutions that already work in a similar way, e.g. in the context of early crisis detection.

3. A fundamental part of conducting such experiments on the use of AI for diplomatic negotiations should be to systematically evaluate the added value of these systems in each specific use case. As described at the beginning of this study, there are two points of reference for this: the efficiency of information processing and the quality, or strategic value, of the insights gained.

Building blocks of a foreign policy data strategy

4. The possibilities of using AI and other methods of data analysis for diplomatic purposes crucially depend on what data are available. Looking ahead, it would therefore make sense to develop a foreign policy data strategy. This could be the basis for systematically collecting and processing information from the practice of diplomacy. The resulting data could be used for national initiatives as well as for strategic cooperation with international partners, friendly governments and the relevant UN working units.

5. In order to be able to use the data collected in this way, the corresponding data analysis units in the German Foreign Office and other ministries involved in international negotiations should meet the need. To facilitate the exchange of data-based analyses between the executive branch and the legislature, it is also important to build up corresponding expertise and interfaces in the administration of the Bundestag.

6. In order to keep up with the developments in this highly dynamic field, it is important to participate in the debates in science, business and civil society. In this regard, it is crucial to establish and institutionalise appropriate networks.³³

Right from the off: Security, data protection and human control

7. The more extensively AI systems are used in the preparation and conduct of diplomatic negotiations, the more important the security of these systems becomes. It is therefore important to consider the

security of the systems from the outset (“security by design”). This also means considering which service providers from the private sector are sufficiently trustworthy. Not least, it is important to avoid creating problematic technological dependencies.

8. On 21 April 2021, the EU Commission published its proposals for regulating the use of AI tools. These are part of the ongoing global discussions of ethical issues arising from the use of AI. For instance, “subliminal” techniques for influencing human behaviour are to be banned, and “high-risk techniques” such as those for facial recognition are to be subject to strict transparency requirements. The — economically mediated — influence of the European Union in setting international norms and standards is great enough that the regulation of the use of AI within in the EU is also likely to have a global impact. Future regulations from Brussels, such as concerning the protection of personal rights, will therefore also be highly relevant for decisions on the use of AI tools in diplomatic negotiations.

9. Finally, it would be a mistake to delegate political value judgements to an AI system. What are the goals to be pursued in a negotiation, what price is acceptable for an agreement, what risk is justifiable — these are all questions that, especially in democratic societies, are to be answered by persons legitimised to do so, and not by a machine. In this sense, AI systems cannot replace diplomats — but they are more than likely to substantially support the work of diplomats in the future.

Abbreviations

AA	German Foreign Office
AI	Artificial Intelligence
AM	Foreign Minister
BK	Federal Chancellor
CAPS	Centre d’analyse, de prévision et de stratégie
GPT	Generative Pretrained Transformer
ISN	Bureau of International Security and Non-proliferation at the US State Department
IMAP	Instability Monitoring & Analysis Platform
ML	Machine Learning
StS	State Secretary
UN	United Nations

³³ On this point, see also the experiences with the Advisory Council on Civilian Crisis Prevention, <https://peacelab.blog/2020/12/summary-report-the-annual-conference-of-the-advisory-board-for-civilian-crisis-prevention-and-peace-building> (accessed 17 November 2021).

