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The Two Tarskis

Tarski in His Prime

ALFRED TARSKI was one of the greatest logicians of all time. Along with his contemporary, Kurt Gödel, he changed the face of logic in the twentieth century, especially through his work on the concept of truth and the theory of models. Unlike the reclusive and other-worldly Gödel, Tarski played the role of the “great man” to the hilt, not only through his fundamental work but also by his zealous promotion of the field of logic, his personal identification with the subject, and his charismatic teaching.

Wherever he was, Alfred Tarski was never anonymous. Short, yet somehow grand, he stood out. More than one person thought of him as “kingly”; others used the cliché “Napoleonic” to describe his attitude as well as his size. At lectures he always made an entrance and when walking through a crowded room he never hesitated or shifted from side to side to weave his way around people. Chest out, with quick little steps, he walked straight through the middle, expecting the waters to part.

Far from conventionally handsome, he emanated a physical aura of energy, intensity, and sensuality. His face was mobile, his expressions volatile, reflecting his immediate mood, thought, and appetite. He had a protruding forehead with pulsing veins, giving the impression of having so much brain there wasn't enough room in his head for the whole of it; bright blue eyes, a bulbous nose, a full mouth, seldom quiet; always talking, always smoking, often drinking; he would screw up his face and virtually shudder with disapproval when he shook his head to say he disagreed or that something was not to his taste. He liked to laugh, especially at his own jokes and the gossipy stories he told and retold. In a way, he resembled Pablo Picasso. And, like Picasso, Tarski had supreme confidence in his talent and vision; he conceived of his work in terms of art as

well as science and believed in the eros of the intellectual. “The sexiest philosopher I have ever encountered,” remembered one casual auditor in his foundations of mathematics class.¹

He spoke English with a heavy Polish accent – a trilled ‘r’, the ‘h’s in the throat, wide open ‘a’s (he called Sarah Hallam, a mathematics department administrator and long-time friend, Sahrrah Chahlahm) – but his usage was mostly correct and, in writing, the precise word was one of his passions. Using the power of those words, he was a forceful and tireless campaigner for everything he thought was due him, both professionally and personally. He did not like to hear the word “no” in any situation.

Dramatic, theatrical, but always completely controlled, Tarski’s lectures were models of elegant clarity, simplicity, and precision. Listeners hung on his every word, mesmerized by the tension and suspense he created through his physical mannerisms as well as the intellectual content at hand. A small, nervous man, a smoker, always in motion, pacing back and forth in a box step, toward the edge of the podium, then to the blackboard, chalk in one hand, cigarette or cigarillo in the other, the ash growing longer as he focused on what he was writing. Would he burn his fingers? Or as he backed away once more to let all regard what he had written, would he take that extra step and fall off the podium? Or moving forward quickly, talking, ready to add to the formula, would he try to write with the cigarette and smoke the chalk? Risk was ever present. According to one account, Tarski did actually set fire to a wastebasket in one of the temporary wooden buildings at the university.² Seeing what he had done, he jumped into the basket with both feet and stamped out the flames, blushed a deep red, but then continued lecturing. He was forbidden henceforth to teach in the wooden buildings. His history with cigarettes was terrible. Dale Ogar, a secretary, reported: “He would come to me, all upset, asking ‘Where is my cigarette? Where did I put it?’ and, after a tense search of his office, I would find it smoldering away, under a pile of papers he had tossed on top of his ashtray.”³

As a scholar and teacher Tarski set exasperatingly high and memorably rigid standards, but there was a warm, friendly side to him, too. He welcomed and encouraged anyone who asked to attend his classes or seminars: “Oh yes, of course come. You have only to read such and such” he said to many a neophyte applicant, “and then you will have no problem following.” However, once the initiate was actually attending and

caught up in the systematic Tarskian approach, a maze of hoops and hurdles appeared that had to be negotiated in exactly the right order. Seminar presentations had to be done “Tarski style,” with precise definitions and statements of results and clearly presented proofs. Nothing vague, confused, or incomplete was tolerated, and sometimes proceedings would grind to a halt while a hapless student was forced to do things properly. And since Tarski interpreted a student’s performance as a reflection of his own abilities, nothing less than the best would do. Depending on the context and the time of day, Tarski commanded admiration, respect, fear and trembling, and affection. A positive result of all this dedicated intimidation was that many of Tarski’s ablest students became leading logicians in their own right. On the other hand, in light of his reputation as an authoritarian taskmaster, some very good students – realizing that doing a Ph.D. thesis with him could easily drag on for six or seven years or more – chose another professor as their dissertation advisor. For those who completed the journey, the benefits were everlasting. Fifty years after earning his Ph.D. degree, Bjarni Jónsson, Tarski’s first student in the United States, wrote:

I have not yet thought of another person, living or dead whom I would rather have had as a teacher He combined an extraordinary mathematical ability with an outstanding talent as a communicator and a willingness to share his ideas with others.⁴

Those who studied with Tarski became part of a school of thought with a tradition of rigor and a set of values that they transmitted to their own students. Even to be known as a student of a student of a student – to be able to trace one’s lineage as a descendant – of Alfred Tarski has its cachet. His coterie of graduate and postdoctoral students and assistants at the University of California at Berkeley addressed him reverently as “Professor Tarski”; but when he was not present, his disciples told tales about him and called him “Papa Tarski” with that unique mixture of affection and mockery students use for those they hold in awe.

The distance between the demanding Professor Tarski and the warm “Papa Tarski” was most easily bridged at the frequent parties Alfred and his wife Maria gave, where hospitality seemed limitless. The food and drink reflected their Polish origins: Polish ham and *bigos*, a meat and prune stew, washed down with many rounds of home-made slivovitz – a

concoction of fruit from their garden mixed with tequila or some other inexpensive alcohol. Toward the end of the evening when the party had thinned out, a moment would arrive when Tarski announced, “Now, let’s drink to *Brüderschaft* [brotherhood]” and he would show the uninitiated how to link arms with him and toss down a glassful of the potent liquor. “Now, you must call me Alfred,” he’d say, with an ingratiating smile. Traditionally the *Brüderschaft* ceremony was restricted to those who had just received their Ph.D. but sometimes there were exceptions. At a party, when spirits were high, it was easy enough to call him Alfred, but the next day it was understood by all that he was once again Professor Tarski. It usually took time and many more *Brüderschaft* ceremonies before a young protégé could comfortably call him Alfred, and a few followers never found it possible.

There were six women among the some twenty-five students who worked for a Ph.D. under Tarski’s direction, a remarkable number considering how few women study mathematics or logic. This was not by chance. In more than one sense, he was a lady’s man: he made it clear that he liked smart lively people and, especially, smart lively women. Although he believed men much more likely to do mathematics at the very highest level, he was strikingly different from most of his colleagues in the way he encouraged and welcomed women students. At least one woman associate claimed that Tarski expressed great anger when he thought she was given an inferior position because she was a woman.⁵ Nor did Tarski restrain himself when the attraction went from the intellectual to the physical. Not surprisingly, Tarski’s enthusiasm in this direction did not always lead to the happiest results for the women involved. If it was difficult for his male students to measure up, his relations with the women who studied with him, when intertwined with romance, were even more complicated. He was brilliant, charismatic, proud, and ceaselessly persistent; it took an ingeniously tactful woman to resist his advances and remain on good terms with him. And, of course, those who accepted or even welcomed his amorous attentions were negotiating difficult terrain.

Over time, Tarski laid claim to a great deal of territory in the world of logic, mathematics, and philosophy, especially in the areas of set theory, model theory, semantics of formal languages, decision procedures, universal algebra, geometry, and algebras of logic and topology. Between the

late 1940s and 1980 he created a mecca in Berkeley to which the logicians of the world made pilgrimage, but he had to push and keep pushing for position, priority, and recognition. For better or worse, it became a habit that he continued long past the point of necessity – or at least so it seemed to others. Even one of his greatest admirers, the philosopher John Corcoran, said: “He was such a glory hound, it was embarrassing. He once confided to me that he considered himself ‘the greatest living sane logician,’” thus not so subtly avoiding the problem of comparison with Kurt Gödel.⁶

Beginnings

Alfred Tarski was born with the twentieth century, on January 14, 1901,⁷ in Warsaw, with the unmistakably Jewish name Teitelbaum (or, in the Polish spelling, Tajtelbaum). He was the first of the two children, both boys, of Rosa (Rachel) Prussak and Ignacy (Isaak) Teitelbaum. Rosa (1879–1942) was from a prominent and wealthy family that had made a fortune in the textile industry of Lodz as the owners of factories and shops. Lodz had been a rural village, a backwater with a few muddy streets, but during the mid–nineteenth-century industrial revolution it became a booming textile center. Factories rose overnight and the population exploded with newly arrived Germans and Jews who came to work in the mills. In this boom town, the Prussaks, an old established family, had been selling and manufacturing cloth since the beginning of the nineteenth century. Rosa’s grandfather Abraham Mojżesz Prussak owned one of the first wool factories in the city and was the first to use steam.⁸

Not only was Rosa Prussak an heiress, she was also brilliant, well educated, and willful. One of the rare young women to attend a secondary school, she was the best student in her *gymnasium* and had a gold medal bestowed upon her by the Czar of Russia to prove it. Since 1815 the Congress Kingdom of Poland (also known as Vistulaland), which included Lodz and Warsaw, owed allegiance to the Russian Empire; that was still the situation at the time of Alfred’s birth and would continue to be the case until the middle of World War I.

In his historical novel *The Brothers Ashkenazi*, Israel Joshua Singer (older brother of the more famous Isaac Bashevis Singer) depicts the rise of the bourgeoisie in Lodz and the conflicting ideals, goals, and passions of the Jewish population. The Prussak family might well have been the model for some of his main characters. Dinele, the heroine, the educated



Rosa Prussak, Alfred's mother, before her marriage, c. 1899.

daughter “interested in literature and disdainful of common ways,” is a perfect picture of the flesh-and-blood Rosa, an imposing woman of high intellect and high standards, demanding of others, and never easily satisfied. In later years, Tarski explicitly credited his own mental rigor and astounding memory to her. By contrast, his father was kind and gentle, a man of the heart.⁹ Setting aside the “gentle,” which Tarski decidedly was not, the origin of his own generosity of spirit and warmth begins with Ignacy Teitelbaum.

Ignacy (1869–1942), one of five children of Berek Teitelbaum and Niute Weinstock, was born in Warsaw. After Niute's death, Berek married Niute's sister, and a daughter (Ignacy's half-sister) was born. Beginning with that generation, a series of “double cousins” complicates the family tree. One branch includes the Swiss mathematician Joseph Hersch and his sister, the philosopher Jeanne Hersch, who were Tarski's cousins once removed. Complicating the genealogy even further, Ignacy's brother Stanislaw married Rosa's younger sister, making her Tarski's “double aunt.” The phenomenon of brothers marrying sisters of their deceased wives was a common occurrence in those years.¹⁰



Ignacy Teitelbaum, Alfred's father (date unknown).

The Teitelbaums, like the Prussaks, were business people whose lives were mostly but not exclusively oriented toward Jewish society. Unlike the large percentage of Warsaw Jews who lived their lives entirely within the self-contained Jewish neighborhoods and community – with their own religion, language, and schools – the Teitelbaums participated in the broader Warsaw scene.

Little is known about the specific occupation of Tarski's paternal grandparents, or of the nature of Ignacy's education, or of how it came about that Ignacy Teitelbaum of Warsaw met and married Rosa Prussak of Lodz. In the Singer fiction, a bold heiress from Warsaw falls in love with a young man at Dinele's wedding and begs her father to send a matchmaker to the appropriate parties in Lodz. With the cities reversed and life imitating art, a similar arrangement might have led to the marriage of Rosa and Ignacy. Since the Prussaks were people of consequence in Lodz – and since daughter Rosa was endowed with intelligence, good looks, and a sizable dowry – Ignacy, too, had to have been in some way alluring. One attraction was that he lived in Warsaw, an interesting, cosmopolitan, glamorously European city whose Parisian flavor eclipsed the gritty

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Koszykowa Street, c. 1910. (Number 51, Alfred's birthplace, no longer exists – all the buildings in the immediate area were replaced by Constitution Square several years after World War II.)

frontier town of Lodz. He was undoubtedly a man of some sophistication and culture, and surely his personal warmheartedness was in his favor.

In *The Brothers Ashkenazi*, when the heroine Dinele is betrothed and her trousseau needs to be made, her mother considers it a triumph that Mademoiselle Antoinette, a French dressmaker, has accepted the commission and convinces her husband that it is a privilege to hire a person whose fee is double or triple the normal price, because of the status it will confer. "The wedding will be the talk of Lodz." Something similar happened for Rosa Prussak. A portrait taken by a photographer to the court of St. Petersburg shows a fair young Rosa, her ample hair piled high, wearing an elegant dress trimmed in sculptured lace. There is every indication that she was a dazzling bride ready for a dazzling wedding.

Rosa and Ignacy married on 16 January 1900; their son Alfred was born a year later and his younger brother Waclaw in 1903. Although the Teitelbaums identified themselves primarily as Jews and observed the traditions, they resided in an integrated part of the city, not in the ghetto near the old town where the majority of the poorer, most *Jewish* Jews resided. Their home was in the heart of Warsaw, in a large apartment on Koszykowa Street, close to Marszałkowska, one of the grand commercial boulevards of Warsaw, a lively thoroughfare lined with shops and

cafés. It was a fine neighborhood, near the handsome foreign embassies on Ujazdowski Boulevard, which runs into Nowy Świat [New World Avenue] and then changes its name to Krakowskie Przedmieście [the Cracow Way] as it approaches the Castle Square and Old Town. From Koszykowa Street it is an easy walk to Ujazdowski Park, to the Botanical Garden and to Łazienki Park – the most elegant and beloved of the Warsaw public gardens, with its summer palace, the Belvedere, its statues, its outdoor theatre on the lake, and the rose garden where Chopin and Paderewski and other great artists had performed.¹¹ Taking advantage of their surroundings, the Teitelbaums lived a comfortable bourgeois life: they dressed well, entertained friends and family, had servants to help, played bridge, went to cafés, theater, and concerts, and sent their children to excellent schools nearby. The Botanical Garden was one of Alfred's favorite places; there he would develop a lifelong love of plants of all kinds, but especially the most exotic ones.

From 1900 to 1939, Warsaw had the second-largest Jewish community in the world, comprising thirty to forty percent of its population. (The largest, following the enormous waves of migration of European Jews to the United States in the early 1900s, was in New York City.) In the Warsaw ghetto, those who chose to or had no other options could easily conduct a life entirely within the Yiddish-speaking community. It was possible to grow up, go to school, work, do business, and shop for everyday goods without speaking or even understanding more than a few words of Polish.

The Teitelbaums, however, were part of mainstream Warsaw, assimilated to the degree that they spoke Polish as their primary language and sent their children to schools where instruction was either in Russian or Polish. On the other hand, after school the boys went to temple to learn Hebrew and study the Torah. The family celebrated the Jewish holidays and traditions. However, by the time he was in his twenties, Tarski's identification became (with some exceptions) very decidedly Polish rather than Jewish, and in his own home he gave Easter and Christmas parties for his family and friends. Even so, he would always recall with pleasure the details of the Jewish holiday celebrations of his youth in Warsaw, and particularly the gilt-wrapped chocolate Hanukkah coins he was invited to search for in his uncles' pockets.¹²

Ignacy Teitelbaum was in the lumber business, although accounts vary as to precisely what he did: some say he owned a factory which produced

lumber, others that he owned a store, others that he was a trader. Perhaps at one time or another he did all three. He is also remembered as having been an inventor whose creations were never put to practical use – in other words, a dreamer. One thing seems quite clear: he was not a good businessman. As a “man of the heart” he was, by implication, not hard-headed, not tough enough in his commercial dealings and therefore only intermittently successful. Financially, he did not live up to the standards to which his wife had been accustomed. She had expensive tastes in furniture and in clothing; she liked to live well and made no secret of her opinion that her husband never provided her with enough money. Like most women in her milieu, Rosa did not work outside the home, but she managed the household and (according to later reports from Tarski’s wife) gave her servants a hard time, frequently upbraiding them publicly about their inadequacies. One can imagine that, along with her husband and her domestic help, the boys Alfred and Waclaw had their work cut out for them when it came to pleasing mother.¹³

Troubles

The mature Tarski was a raconteur. He liked talking about his past experiences and adventures to friends and students, but aside from the Hanukkah stories, he had surprisingly little to say, even to his close friends, about his early childhood. He did tell stories of his interests as a young man – about his long hikes in the Tatra mountains, his love of nature, his passion for botany and biology, his fascination with language, the general excellence of Polish education, and his political concerns – but he revealed almost nothing of his inner life and feelings as a child.

Of course, material for conjecture exists. Alfred was a gifted child, quick and hardworking, and eager to perform. With his intensely bright blue eyes and golden curls, he surely satisfied most if not all of his parents’ expectations and was a favored child. The mature Tarski had winning ways; he had learned how to be charming and anticipated that both women and men would respond to his lively conversation and courtly manners. From long experience, he was accustomed to being the center of attention and was unhappy if he was not.

The younger Waclaw, who became a lawyer, was the more practical, less intellectual of the two brothers, but they were close and enough alike