

Rob's Puzzle Page

Tangrams and Anchor Stone Puzzles



The iconic pattern/silhouette puzzle is **Tangrams (Tan-Grams)**. The Tangram is a special type of dissection puzzle. It is hugely popular and there is a wealth of information available about it on the Web.

It consists of a square divided into seven pieces. The first problem is to construct the square from the pieces. The difference between this type of puzzle and simple dissections, however, is that Tangram puzzles are accompanied by booklets or cards depicting various forms, often of geometric or stylized organic figures, that are to be modeled in two dimensions with the available pieces. The problem figures are shown in silhouette without revealing the internal borders of the individual pieces. The designs can be quite elegant and some can be challenging to properly model. *If the puzzle doesn't come with problem silhouettes, it's a mere*

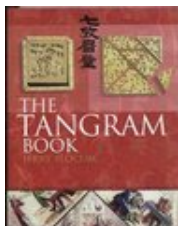
dissection.

[Jurgen Koeller's site](#) has a nice section devoted to Tangrams, and shows some popular variants. [Randy's site](#) is nice, too, and has a super links page where you can find patterns and programs to download. Also check out the [Tangraphy page](#) at [Ito Puzzle Land](#).

Many sets have been produced, some dating back more than a century. **Tangoes** is a modern version. Tangrams probably originated in China in the late 1700's or early 1800's, not thousands of years ago as some have claimed. However, possibly the oldest known dissection puzzle, the "Locus of Archimedes" or "Stomachion" was written about in the 3rd century B.C. ([Learn more about](#) the Stomachion on George Miller's site.) Tangrams was the first real puzzle craze to sweep Europe and America, from about 1815 onwards to 1822 or so. [Ivory](#) sets from China are particularly valuable. In Chinese, Tangrams are known as "Chi-Chiao" - "The Seven Clever Pieces."



One interesting challenge using the standard Tangram set of seven pieces is to build all possible convex geometric figures. (A convex figure is one in which any two points can be connected by a straight line segment which lies entirely within the figure.) In 1942, the Chinese mathematicians Fu Traing Wang and Chuan-Chih Hsiung proved that there are only [thirteen convex figures](#) that can be constructed using the standard Tangram set. Another interesting challenge involves [paradoxical Tangrams](#). Two silhouettes appear to be the same except for one piece, yet each is built using all seven pieces. You can see several at the [Archimedes' Laboratory site](#).



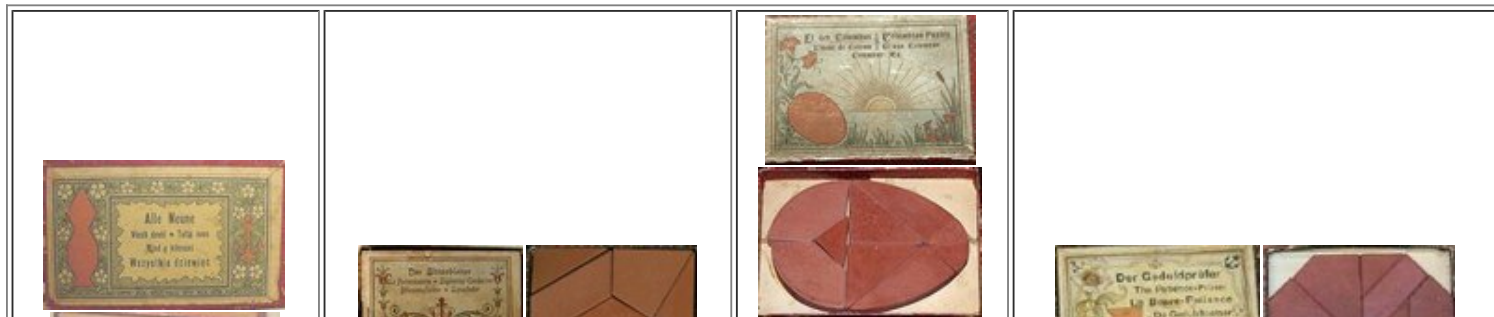
[Jerry Slocum](#) has written a book all about the familiar Tangram puzzle and its surprising history. The noted American puzzle inventor Sam Loyd published a book of over 650 problems called "The Eighth Book of Tan Part I" in 1903, and concocted a bogus backstory for the puzzle. Slocum debunks Loyd's claims and explores the true history of the Tangram puzzle, based on globe-spanning research. Slocum includes over 1700 Tangram problems compiled from several sources around the world and from different periods.

Any geometric shape can be dissected into pieces, and the pieces re-arranged to form fanciful figures. You can make up your own problems by inventing a pretty figure, tracing around the completed figure and then challenging others to reproduce it. Perhaps no other company has expanded on the idea more than the German F. Adolph Richter and Company, which began producing a line of "**Anchor Stone Puzzles**" in 1882. (They also made sets of building blocks, discussed on [George Hardy's site](#).) Richter made blocks from a mixture of Kaolin clay, sand, and linseed oil, based on a formula patented by Otto Lilienthal. Most of the Anchor puzzles are dissected rectangles. A team of artists came up with the hundreds of problem silhouettes.

By the late 1800's there were at least 36 puzzles in the Anchor lineup. Slocum and Botermans discuss the complete lineup in "Puzzles Old and New" on pp.27-33. Stewart Coffin examines them in his book [The Puzzling World of Polyhedral Dissections](#). I list them in the table below, and show pictures I have been able to find. The Anchor puzzles are very collectible, if you're interested in this category. I own only those puzzles listed in **bold**. Some of the designs have proven to be broadly popular - I highlight those using a light background color.

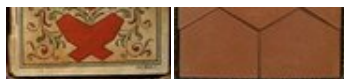
The German company [Anker Steinbaukasten GmbH](#) still exists today and still sells building sets and puzzles. You can buy new Anchor puzzles at:

- [Padilly](#)
- [The ToyHouse](#)

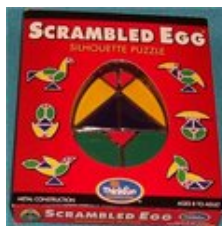




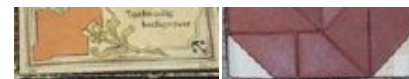
No. 1
Alle Neune
[New version available.]



No. 2
Blitzableiter



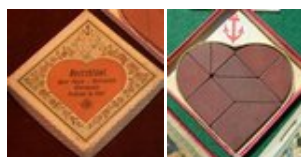
No. 3
Ei des Columbus
[New version available.]
I have a **metal version** from Thinkfun called the **Scrambled Egg**.



No. 4
Geduldprufer



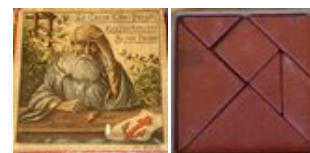
No. 5
Grillentoter



No. 6
Herzratsel
I have a modern plastic version, **Kohner's Tormentor**.
[New version available.]



No. 7
Kobold
Note: the **Devil** puzzle in wood offered by B&P is identical.



No. 8
Kopfzerbrecher
This is the "classic" Tangram set. I have an Anchor version in an old blue box, and a **copy** offered a while ago by Bits and Pieces. I also have a modern plastic version, **Kohner's Pythagoras** (not to be confused with Anchor's #12).
[New version available.]



No. 9
Kreuzratsel
I also have a **copy** offered a while ago by Bits and Pieces.
[New version available.]



No. 10
Kreuzspiel
The **Lucky Puzzle** from Japan is a plastic version. **Kohner's Voodoo** is another plastic version.



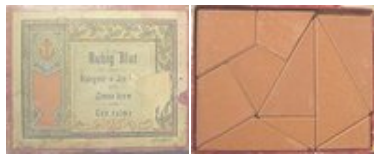
No. 11
Nicht zu Hitzig



No. 12
Pythagoras
Zany, copyright 1939 by the Martel Co. of N.Y. is a copy. The set includes seven green wooden pieces from which one can construct a square approx. 70mm on a side. A "Puzzle Book No. 1" contains 138 problems, and solutions are shown in the corresponding "Answer Book No. 1."



No. 13
Qualgeist



No. 14
Ruhig Blut



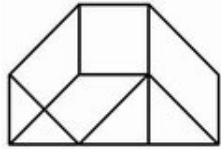
No. 15
Sphinx
Lott's Stone Puzzle is a copy.



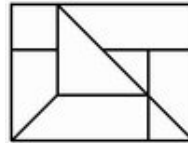
No. 16
Wunderei
(Same pieces as No. 3; different problems.)



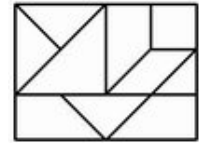
No. 17
Zornbrecher
[New version available.]



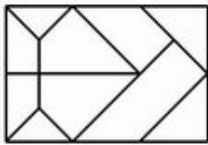
No. 18
Archimedes
Not the Stomachion.



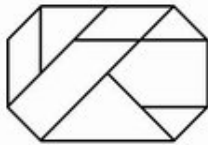
No. 19
Ende Gut, Alles Gut



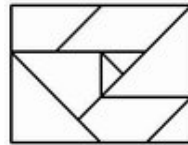
No. 20
Puff



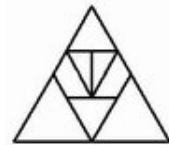
No. 21
Eile mit Weile



No. 22
Sorgenbrecher



No. 23
Kopernikus



No. 24
Pyramide



No. 25
Nur Mut
I have a recent copy of Nur Mut.



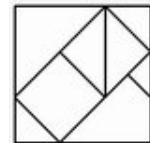
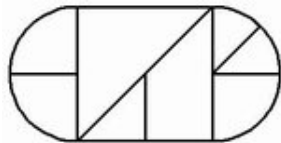
No. 26
Bose Sieben



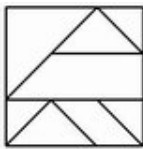













No. 27
Ritze Ratze



No. 28
Frisch Gewalt



 <p>No. 29 Zeitvertreiber</p>	<p>No. 30 Zeppelin</p>	<p>No. 31 Kiebitz-Ei</p>	<p>No. 32 Wer Wegt Gewinnt</p>
 <p>No. 33 Fur Kluge Leute</p>	 <p>No. 34 Hexenmeister</p>	 <p>No. 35 Teufelchen</p>	 <p>No. 36 Heureka</p>
 <p>No. ? Schutzengraben</p>	 <p>No. ? Zoologischer Garten (Same pieces as Schutzengraben; different problems.)</p>	 <p>No. ? Picco (There are 3 different Picco puzzles.)</p>	 <p>No. ? Stern Raadsel</p>
 <p>No. ? Blumen Spiel</p>			
 <p>Vexier Mosaik 1 (There are 4 different Vexier Mosaik puzzles.)</p>	 <p>Vexier Mosaik 2</p>	 <p>Vexier Mosaik 3</p>	 <p>Vexier Mosaik 4</p>

Kohner (or its Tryne Game Division) has offered some sets:





Pythagoras
(thick and thin versions)
like Tangrams



Hi-Jinx
an octagon of 7 pieces
(not among Anchor designs)
Euclid (which I don't have) is the same



Voodoo
(with alt cover)
a rectangle in 7 pieces
(like Anchor Kreuzspiel)



Tormentor (aka **Sweetheart**, which I don't have)
a heart in 9 pieces
(like Anchor Herzraatsel)



Here are two versions of the **Elzzup** puzzle by Wm. F. Drucke.



This is the Tangrams Box by James Lyon.



Binary Arts Tangram



Q-Pak



Jaymar Jigso



Spears Superpuzzle

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