A BRIEF HISTORY OF ABILITY CHECKS IN DUNGEONS & DRAGONS

compiled by Elisha "aher" Abuyah

Dedication

מיַין זיידע עליו השלום

Thank you for teaching me how to play backgammon, chess, pinochle, and countless other games.

Colophon

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Introduction

Situations arise in roleplaying games where the rules don't exist to deal with the actions a player attempts, or they don't uniquely determine the results of these actions. Ability checks arose as one solution to this problem. This booklet summarizes a dozen of the different Ability check systems that have been developed for *Dungeons & Dragons* over the last forty years.

I had a few main goals in preparing this booklet:

First, to prove that Ability checks are "old school." They first appeared in Dave Arneson's Blackmoor campaign around 1972, even before the publication of *Dungeons & Dragons* in 1974.

Second, to show the great variety and creativity of these systems.

Third, to illustrate how these mechanics have evolved over time. They seem to have a "direction" in time: (1) Away from "roll under" mechanics towards "roll high" mechanics. (2) Away from using Ability scores towards using Ability modifiers. (3) Away from using six-sided dice at first and percentile dice for a period towards using a d20 mechanic.

<div align="right">Elisha "aher" Abuyah, 16 February 2013</div>
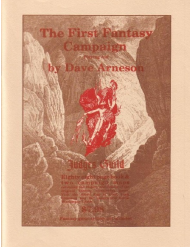
The First Fantasy Campaign (1977)

by Dave Arneson

In the section on "Blackmoor Dungeons," page 28, Dave describes what may be the very first example of an Ability check, in the paragraph beginning:

> Should the players ascend the stairway...they fall towards Blackmoor Bay some 5 - 100 feet below them. Any rope that is holding them is broken when they hit the water. They must then avoid drowning (I ask them while they are falling what they are doing; if they are in Plate Armor, I give them a 1/10 chance of getting it off in time; others must make a throw less than their Dexterity rating when they are wearing some other Armor).

It isn't precisely known when Dave conceived and implemented this Ability check mechanic. See the discussion about the [Blackmoor campaign chronology](#) (Nov 28, 2009), where it says Abilities were first introduced sometime in Spring 1972.

Nor is it clear from the quoted text what dice were originally "thrown." From the discussion cited above, we know that prior to the 1974 release of *Dungeons & Dragons*, Abilities scores were generated with 2d6 to fall in the range 1-10. We also know from the "Introduction" on page 6 that during this time Dave used "six-sided dice (no funny dice back then)." So the "throw" may have been something like:

$$2d6 \leq \text{Dexterity}$$

But this is shear speculation on my part. One wonders, when Dave switched his Blackmoor campaign over to use the new *Dungeons & Dragons* rules in 1974, with its polyhedral dice and its Ability scores generated by 3d6 to fall in the range 3-18, how did he modify the "throw" to compensate? d20 or 3d6? Or some other scheme entirely?
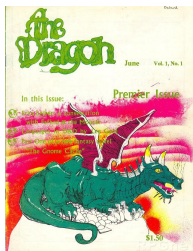
The Dragon #1*,* Vol. 1, No. 1 , June 1976

"How to Use Non-Prime-Requisite Character Attributes," page 7.

by Wesley D. Ives

Step 1. Roll d100, add it to the Ability score, and consult the following table in order to find the "Determination die":

Ability score + d100	Determination Die
01-20	d4
21-40	d6
41-60	d8
61-80	d10
81-100	d12

Step 2. Apply the following formula:

d100 ≤ (Ability score) x (Determination die)

Example. You are trying to roll away a boulder that's blocking your egress from a cave. Your STR is 17. First, on a d100 you roll 66.

17 + 66 = 83 → d12 Determination die

You roll a 3 on the d12. So your %chance is 3 x 17 = 51%.

Second, you need to roll 51% or less on a d100.

Modifiers. There are bonuses for Level and penalties for Class.

Bonus for Level. Add the plusses you get "to hit" from your Level to your Ability score.

Penalty for Class. If you are trying to do something outside the scope of your Class, your %chance is

(Ability score + Level bonus)/4 x 100%

This was a UK Fanzine. In the description of the "Apparition" on page 10, the text reads:

> Therefore, even if the victim is aware that this vision cannot physically damage him, the suggestion is so strong that he is forced to throw 3 x 6 die. A result which totals <u>under</u> the victim's intelligence, means that he is free of the creature's suggestion and that particular apparition is unable to harm him again. A throw that totals <u>over</u> the intelligence of the victim, means that he is horror-struck and he is required to throw again, this time against his constitution. A throw <u>less</u> than his score, causes him to flee as in fear (1-4 melee turn) and he may be re-attacked. Throwing over his constitution causes his fear to induce a heart attack and the victim dies.

There is some mathematical ambiguity. We're told what happens when the throw is "under" or "less than" (<), and what happens when the throw is "over," but not what happens when the throw is "equal to" (=) the given Ability score. We can speculate that the author meant "less than or equal to," so that the formula becomes:

$$3d6 \leq \text{Ability score}$$

This scheme would extrapolate from Blackmoor's orignal 2d6 mechanics to *Dungeon & Dragons* 3d6 mechanics.
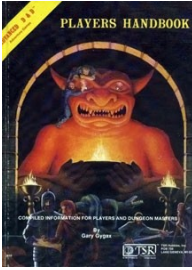
Player's Handbook (1978)

by Gary Gygax

On page page 76, in the description of the "Dig" spell:

> Any creature at the edge (1') of such a pit uses its dexterity score as a saving throw to avoid falling into the hole, with a score equal to or less than the dexterity meaning that a fall was avoided.

This Ability check generalizes to

**d20 ≤ Ability score**

Dungeon Master's Guide (1979)

By Gary Gygax

On page 110, in the section on "Conducting the Game," "Rolling the Dice and Control of the Game":

> There will be times in which the rules do not cover a specific action that a player will attempt. In such situations, instead of being forced to make a decision, take the option to allow the dice to control the situation. This can be done by assigning a reasonable probability to an event and then letting the player dice to see if he or she can make that percentage. You can weigh the dice in any way so as to give the advantage to either the player or the non-player character, whichever seems more correct and logical to you while being fair to both sides.

This method is fairly arbitrary. The words "make that percentage" imply percentile dice are to be used. This yields the formula:

d100 ≤ Percentage chance given by DM
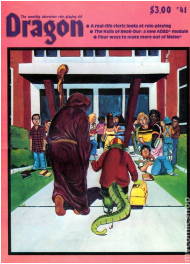
The Dragon #41, Vol. V., No. 3 September 1980

"The Halls of Beoll-Dur" adventure

by David Luther , John Naatz , Dave Niessen , and Mark Schultz

On page M1 (page 65 in the PDF) we see:

> Characters who must roll for saving throws ... will do so according to the following formula: Roll 3, 4, or 5d6 (the number of dice varies) and subtract one point from the dice roll for every two levels of experience the character has attained. Compare the resulting number to a specified ability (this also varies), and if the adjusted dice roll is less than the character's score for the ability in question, the saving throw is considered made.

Like the Ives method from the premiere issue of *The Dragon*, this method makes use of an adjustment for Level. The formula is

$$\text{Nd6} \ - \ \text{floor(Level/2)} \ \leq \ \text{Ability score}$$

where N=3 for average tasks, N=4 for hard tasks, and N=5 for nearly impossible tasks. The "floor" function here just means to "round down."

As the number of dice N goes up, the probability distribution becomes more "bell-like." For a "bell-like" distribution, 68% of the rolls will be within ±1 spread of the mean. Therefore, the following table, which lists the mean and spread of each roll, may be of some use in appraising this method:

Roll	Mean	Spread
3d6	10.5	2.95803989155
4d6	14	3.41565025532
5d6	17.5	3.81881307913

Dungeons & Dragons Basic Rulebook (1981)

by Tom Moldvay

On page 60, in the "DM Instructions":

> **"There's always a chance."** The DM may want to base a character's chance of doing something on his or her ability scores (Strength, Dexterity, and so forth). To perform a difficult task (such as climbing a rope or thinking of a forgotten clue), the player should roll the ability score or less on 1d20. The DM may give a bonus or penalty to the roll, depending on the difficulty of the action (-4 for a simple task to +4 for a difficult one). A roll of 1 should always succeed, and a roll of 20 should always fail.

The formula for Moldvay Basic Ability checks is:

$$\textbf{d20 + difficulty} \leq \textbf{ Ability score}$$

This Ability check mechanic adds two novelties to the mechanic we just saw in the AD&D 1E *Player's Handbook*:

Difficulty modifiers. Difficulty modifiers range from -4 (easy) to +4 (difficult). Note that the difficulty modifier is added to the dice roll rather than to Ability score, making difficulty positive and ease negative.

Criticals. A "Critical success" is a "natural 1" while a "Critical failure" is a "natural 20." (This is the opposite of what many of us normally think!)
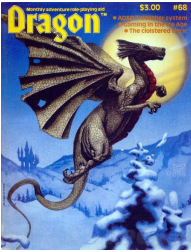
Dragon #68, Vol. VII, No. 7, December 1982

"You've always got a chance: Use ability scores to determine success or failure," pages 81-82

by Katharine Kerr

This article pertains to *Advanced Dungeons & Dragons*. It makes use of the percentile roll we saw earlier in the *Dungeon Master's Guide*, rather than the d20 roll we saw mentioned in the *Player's Handbook*:

> [T]he DM may turn the [Ability] score into a percentage chance for the character to use the skill in question. Multiplying the ability score by 5 gives a number we may call the basic skill percentage.

So, for example, if the PC's ability to persuade others is being tested, and his CHA is 10, then his "basic skill percentage" is 10 x 5 = 50% .

Later we read something innovative. Sometimes 2 or more abilities are relevant to a test. If so, average them:

> To get the base chance in these circumstances, simply average the percentages required, rounding up if necessary. … [T]he fighter will need both strength and dexterity to pull himself onto the ledge once he's made the climb; 70 + 90 divided by 2 = an 80% base chance of scrambling over the ledge successfully.

We also get a long discussion of situational modifiers, their granularity and typical values. She concludes that a typical bonus should be either +5% or +10%, and that a typical penalty should be either -5% or -10%. So the formula is

d100 ≤ 5 x (Averaged required ability scores) ±{5%,10%}
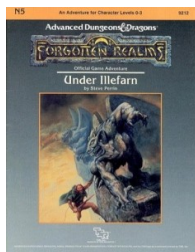
N5: Under Illefarn (1987)

by Steve Perrin

On page 6, in the "Modifying Ability Checks" section, we get two different methods of performing Ability checks. First, we get a method like the Moldvay Basic Ability check we already saw, namely, d20 + difficulty ≤ Ability score, except the difficulty modifier ranges from 1-5 rather than -4 to +4.:

> Ability checks are sometimes modified by the difficulty or ease of task to be accomplished. The Dungeon Master may modify the chance of success in one of two ways.
>
> The simplest way is to add a difficulty modifier to a roll. For example, a climb up a steep slope could call for a Strength check. If the slope is particularly steep, add 1-5 to the number rolled before comparing it to the character's Strength. If the modified roll is too high, the Ability check fails.

Second, we get a method that resembles what we already saw in *The Dragon* #41, *sans* the Level adjustment, namely, Nd6 ≤ Ability score:

> Another way to modify an Ability check is to use different dice. For example, rolling 3d6 instead of 1d20 means that characters with high abilities will almost always succeed, while those with low abilities will usually fail. This is because the usual roll on 3d6 is between 9 and 12. More difficult Ability checks can be resolved by calling for the use of 4d6 or even 5d6, making success almost impossible for all but characters with the highest abilities.

What's different is that we're explicitly offered a choice between two of the major competing systems we've seen so far.

Shadis #6, Vol. I, No. 6, December 1991

"Campaigns Made Easy: Role-Playing and Matrix Games ," pages 5-11

by Chris Engle

There are situations in RPG's where the rules don't handle things well. Ability checks provide a simple way to resolve these situations. Engle's solution is a matrix game. Whereas Ability checks emphasize "roll playing," matrix games attempt to put the emphasis back on "roleplaying," without discarding the element of randomness. A matrix game comprises a player's argument and a DM's counter-argument.

The player makes an argument. The argument consists of 3 parts:

- The **action** his PC takes.

- The **result** the PC wants to follow from this action.

- 1-3 short **reasons** that support the action/result equation.

The player's SCORE is initially equal to the number of reasons he gives. The DM may modify this by +1 for a strong argument or -1 for a weak one. In extreme cases, the DM may VETO the player's argument altogether.

The DM then makes a counter-argument. It has 1 of 3 forms:

- **YES** the player's action/result happens **AND** a second result also happens. DM's SCORE=4.

- **YES** the player's action occurs **BUT** a different result occurs. DM's SCORE=3.

- **NO** the player's action doesn't happen **ACTUALLY** a different action/result takes place. DM's SCORE=2.

Finally, the player and DM each roll a d6, and apply the test

$$d6 \leq SCORE$$

Repeat this test as often as necessary, until one succeeds and the other loses.
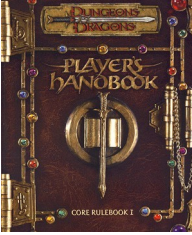
Player's Handbook (2000)

3rd Edition

by Monte Cook, Jonathan Tweet, Skip Williams

The d20 SRD states:

> Sometimes a character tries to do something to which no specific skill really applies. In these cases, you make an ability check. An ability check is a roll of 1d20 plus the appropriate ability modifier.

This yields the formula:

d20 + Ability modifier ≥ DC

where Ability modifier is (Ability score - 10)/2 rounded down, and DC stands for "Difficulty Class." A table of DCs is provided:

Difficulty	DC
Very easy	0
Easy	5
Average	10
Tough	15
Challenging	20
Formidable	25
Heroic	30
Nearly impossible	40

3E Ability checks differ from the "old school" systems we've considered so far in at least two major ways:

First, in 3E we only consider the Ability modifier rather than the Ability score.

Second, in 3E we want to "roll high," whereas "old school" Ability

checks use "roll under" mechanics. We can always manipulate the formula mathematically to rewrite a "roll under" mechanic as a "roll high" mechanic, or *vice versa*. But I find that "roll high" mechanics jive better with some players, especially newer players.

The 3E rules also caution against over-using Ability checks:

> In some cases, an action is a straight test of one's ability with no luck involved. Just as you wouldn't make a height check to see who is taller, you don't make a Strength check to see who is stronger.
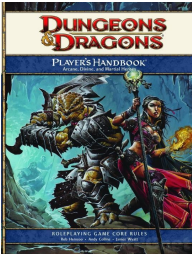
Player's Handbook (2008)

4th Edition

by Rob Heinsoo, Andy Collins, James Wyatt

The formula is similar to 3E version

1d20 + Ability modifier + ½ Level ≥ DC

except it adds Level into the mix, something we saw in *The Dragon* #1 and *The Dragon* #41. As a result, the tables for DC take Level into account and look something like this:

Level	Easy	Moderate	Hard
1	8	12	19
2	9	13	20
3	9	13	21

I should note that these tables have changed from the original hardback rules to the errata to the *Rules Compendium*. The DC values are chosen to provide a

> reasonable challenge at each level—we define reasonable challenge as a d20 roll that is successful around 65% of the time (you need to roll 8+ on the die). [Stephen Schubert]

Notes