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Vocabulary Builder Reference from...

Vijay Kumar: The future of flying robots | TED Talk
https://www.ted.com/talks/vijay_kumar_the_future_of_flying_robots

Advanced Words Only

IMPORTANT

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Session 1: Word List

drone

n. a low continuous humming noise; someone who takes more time than necessary; a pilot-less aerial vehicle that is operated by remote control

synonym: hum, whirr, idler

(1) **drone** flight, (2) the speaker's **drone**

He heard a **drone** of sirens roar from the neighboring town.

determinant

n. a factor, circumstance, or condition that contributes to the shaping, influencing, or determining of a particular outcome or result

synonym: cause, factor, element

(1) environmental **determinant**, (2) a **determinant** of crop yields

One **determinant** of success is having a positive attitude and a strong work ethic.

onboard

v. to become or make part of a team, group, or system; to install, activate, or begin using a piece of equipment or software; (adjective) included or integrated into a particular system, machine, or device

synonym: embark, aboard, on-load

(1) **onboard** the new employees, (2) **onboard** computer

The passengers were instructed to **onboard** the aircraft as quickly as possible so that the flight could depart on time.

triangulation

n. the process of determining the location or position of something, such as an object, place, or point, by measuring the angles or distances between multiple reference points or landmarks

synonym : measurement, surveying, trilateration

(1) **triangulation** method, (2) political **triangulation**

The archaeologists used GPS **triangulation** to accurately map the ancient ruins.

recognizable

adj. easy to become aware of or identify

synonym : noticeable, perceptible, definite

(1) to a **recognizable** degree, (2) **recognizable** landmark

His car was easily **recognizable** in the parking lot.

centimeter

n. a unit of measurement of length in the metric system, equivalent to one-hundredth of a meter

(1) **centimeter** measurement, (2) thirty **centimeters** tall

The room was only one **centimeter** wider than the piano, making it a tight fit.

infer

v. to form an opinion or conclude that something is true based on existing facts

synonym : guess, deduce, assume

(1) **infer** quality from price, (2) **infer** the possibility

Animal desire and preference are always **inferred** from their behavior.

smartphone

n. a mobile phone that functions as a computer and connects to the Internet

(1) **smartphone** app developer, (2) **smartphone** addict

Internet traffic volumes have increased significantly with the advent of **smartphones**.

app

n. (abbreviation for application) software designed to run on smartphones and other mobile devices or inside a web browser on a PC

synonym : application, software

(1) killer **app**, (2) cannot log in to the **app**

The discovery of a critical bug caused the company to delay the **app's** release.

unstructured

adj. not having a clear organization or arrangement

synonym: unorganized, unarranged, formless

(1) **unstructured** text, (2) **unstructured** information

The **unstructured** data took a lot of work to analyze and interpret.

claw

n. a curved, pointed appendage found on the foot or leg of an animal, used for gripping or grasping; a human hand with long, narrow fingers that are curved like a claw; a machine or tool with a claw-like opening used for gripping or lifting objects

synonym: paw, talon, nail

(1) **claw** marks, (2) **claw** hammer

The bear used its **claw** to catch a fish in the river.

maneuver

n. a motion or combination of moves that requires skill and care; a clever strategy, activity, or movement intended to give someone an advantage

synonym: gimmick, trick, action

(1) political **maneuvers**, (2) made a great **maneuver**

In this class, we learn the basic **maneuver** of the plane.

honeybee

n. a type of bee that is known for producing honey and pollinating flowers

synonym: apis mellifera

(1) **honeybee** colony, (2) aggressive **honeybee**

The **honeybee** hive is organized into a caste system, with a queen, drones, and workers.

inertia

n. the quality or state of being inactive, sluggish, or slow to move or act

synonym: sluggishness, lethargy, idleness

(1) **inertia** resistance, (2) Newton's law of **inertia**

The object's **inertia** kept it moving in a straight line until acted upon by an outside force.

mimic

v. to imitate someone's speech, movement, or behavior, especially to make others laugh

synonym: mirror, imitate, ape

(1) **mimic** a human voice, (2) **mimic** numerous instruments

He is very popular at school because he can **mimic** all the teachers' accents.

midair

n. some point in the air; above ground level

(1) a **midair** collision, (2) thrown out into **midair**

She flawlessly performed a **midair** somersault.

propeller

n. a device with rotating blades or vanes used for propulsion or creating lift, typically used on boats or aircraft

synonym: prop, rotor, fan

(1) **propeller** design, (2) **propeller** aircraft

The boat's **propeller** stopped working in the middle of the lake.

entangle

v. to become twisted or knotted together, especially in a way that makes it difficult to separate them; to involve in something complicated or difficult to escape

synonym: ensnare, entrap, involve

(1) **entangle** in wires, (2) emotionally **entangle**

The vines of the plant **entangled** themselves around the trellis.

histogram

n. a graphical representation of data that shows the distribution of values in a set or group typically displayed as a series of bars of varying heights or widths

synonym: frequency distribution

(1) **histogram** distribution, (2) **histogram** chart

The data was organized into a **histogram** to show the

frequency of occurrence of each value.

swarm

n. a group of many things, such as insects, fishes, etc., in the air or water or on the ground

synonym: horde, hive, throng

(1) a **swarm** of mosquitoes, (2) locust **swarm**

A **swarm** of angry bees attacked because we had approached the hive.

interplay

n. the way in which two or more things interact or influence each other

synonym: interaction, give-and-take, interconnection

(1) **interplay** among neurons, (2) complex **interplay**

The **interplay** of light and shadow creates a dramatic effect in the painting.

hijack

v. to seize control of an airplane or other vehicle during an operation, especially with violence

synonym: commandeer, seize, pirate

(1) **hijack** a helicopter, (2) **hijack** a phone number

He made a desperate effort to **hijack** an airliner.

anonymity

n. the condition of being anonymous or unidentified; the state of not revealing one's name, identity, or other personal information

synonym: obscurity, secrecy, namelessness

(1) comment with **anonymity**, (2) protect **anonymity**

The use of pseudonyms allows individuals to maintain their **anonymity** online.

agnostic

n. a person who believes that it is impossible to know whether there is a god

synonym: skeptic, doubter, unbeliever

(1) **agnostic** world-view, (2) **agnostic** position

Her scientific background led her to be **agnostic** about the existence of a higher power.

ellipse

n. a closed curve with a shape resembling a stretched circle; in geometry, a figure formed by the intersection of a cone with a plane, where the plane cuts through both halves of the cone

synonym : oval, oblong, curve

(1) Kepler's **ellipse**, (2) planetary **ellipse**

He used the **ellipse** equation to calculate the dimensions of the oval-shaped garden.

malnourished

adj. not getting enough of the right type of food to stay healthy and strong

synonym : undernourished, underfed

(1) premature **malnourished** infant, (2) **malnourished** population

Malnourished children are at risk of developmental delays and chronic health problems.

cultivate

v. to prepare and foster land for growing crops or plants

synonym : boost, foster, nurture

(1) **cultivate** a field, (2) **cultivate** relationships

University is a great place to **cultivate** our minds and expertise.

improvisation

n. the act of making something up on the spot or creating or performing something without preparation

synonym : spontaneity, ad-lib, extemporization

(1) **improvisation** on stage, (2) jazz **improvisation**

He created a beautiful piece of music using only **improvisation**.

orchard

n. a piece of land that is planted with fruit trees, such as apples, pears, or cherries

synonym : grove, plantation, fruit garden

(1) local apple **orchard**, (2) **orchard** tree

The farmer owns an **orchard** where he grows apples, pears, and plums.

medicinal

adj. of or relating to the treatment or cure of disease
synonym : curative, therapeutic, healing

(1) **medicinal** chemistry, (2) traditional **medicinal**

The **medicinal** properties of this herb have been known to help with various ailments.

correlate

v. to have a connection or relationship in which one thing affects or depends on another

synonym : associate, liken, connect

(1) **correlate** closely with the quality, (2) **correlate** to the size

We may frequently **correlate** age with the frequency of disease.

photosynthesis

n. the process through which plants and other organisms transform light energy into chemical energy, which is then released through cellular respiration to power the organism's activities.

(1) oxygenic **photosynthesis**, (2) process of **photosynthesis**

In **photosynthesis**, plants use carbon dioxide to feed themselves.

discernible

adj. able to be perceived or recognized; clear or distinguishable

synonym : apparent, noticeable, distinguishable

(1) **discernible** pattern, (2) lack of **discernible** progress

There was a **discernible** change in the atmosphere when the boss walked into the room.

chlorosis

n. a condition in plants characterized by the yellowing or whitening of leaf tissue caused by the insufficient production or impaired function of chlorophyll

synonym : yellowing, discoloration, paleness

(1) **chlorosis** diagnosis, (2) leaf **chlorosis**

The botanist suggested that the **chlorosis** in the elm tree

might result from overwatering.

sect

n. a group of people who follow a particular religious or philosophical belief system, especially one that is regarded as outside the norm or mainstream

synonym : group, faction, cult

(1) **sect** beliefs, (2) secret **sect**

The minority **sect** believed in a set of unconventional religious practices.

applaud

v. to express approval of someone or something by clapping the hands

synonym : clap, celebrate, praise

(1) **applaud** his courage, (2) **applaud** the orchestra

I enthusiastically **applaud** my rival's achievement.

Session 2: Spelling

- | | |
|----------------------------|--|
| 1. hi___k a helicopter | <i>v.</i> to seize control of an airplane or other vehicle during an operation, especially with violence |
| 2. made a great ma_____er | <i>n.</i> a motion or combination of moves that requires skill and care; a clever strategy, activity, or movement intended to give someone an advantage |
| 3. in_____ay among neurons | <i>n.</i> the way in which two or more things interact or influence each other |
| 4. co_____te to the size | <i>v.</i> to have a connection or relationship in which one thing affects or depends on another |
| 5. local apple or_____d | <i>n.</i> a piece of land that is planted with fruit trees, such as apples, pears, or cherries |
| 6. complex in_____ay | <i>n.</i> the way in which two or more things interact or influence each other |
| 7. ag_____ic world-view | <i>n.</i> a person who believes that it is impossible to know whether there is a god |
| 8. to a rec_____ble degree | <i>adj.</i> easy to become aware of or identify |
| 9. me_____al chemistry | <i>adj.</i> of or relating to the treatment or cure of disease |
| 10. Kepler's el_____e | <i>n.</i> a closed curve with a shape resembling a stretched circle; in geometry, a figure formed by the intersection of a cone with a plane, where the plane cuts through both halves of the cone |

ANSWERS: 1. hijack, 2. maneuver, 3. interplay, 4. correlate, 5. orchard, 6. interplay, 7. agnostic, 8. recognizable, 9. medicinal, 10. ellipse

11. a mi__r collision *n.* some point in the air; above ground level
12. cannot log in to the a_p *n.* (abbreviation for application) software designed to run on smartphones and other mobile devices or inside a web browser on a PC
13. leaf ch_____is *n.* a condition in plants characterized by the yellowing or whitening of leaf tissue caused by the insufficient production or impaired function of chlorophyll
14. hi___k a phone number *v.* to seize control of an airplane or other vehicle during an operation, especially with violence
15. s__t beliefs *n.* a group of people who follow a particular religious or philosophical belief system, especially one that is regarded as outside the norm or mainstream
16. killer a_p *n.* (abbreviation for application) software designed to run on smartphones and other mobile devices or inside a web browser on a PC
17. Newton's law of in_____a *n.* the quality or state of being inactive, sluggish, or slow to move or act
18. mal_____hed population *adj.* not getting enough of the right type of food to stay healthy and strong
19. tri_____ion method *n.* the process of determining the location or position of something, such as an object, place, or point, by measuring the angles or distances between multiple reference points or landmarks

ANSWERS: 11. midair, 12. app, 13. chlorosis, 14. hijack, 15. sect, 16. app, 17. inertia, 18. malnourished, 19. triangulation

20. in__r the possibility *v.* to form an opinion or conclude that something is true based on existing facts
21. emotionally en____le *v.* to become twisted or knotted together, especially in a way that makes it difficult to separate them; to involve in something complicated or difficult to escape
22. thirty cen_____ers tall *n.* a unit of measurement of length in the metric system, equivalent to one-hundredth of a meter
23. political tri_____ion *n.* the process of determining the location or position of something, such as an object, place, or point, by measuring the angles or distances between multiple reference points or landmarks
24. secret s__t *n.* a group of people who follow a particular religious or philosophical belief system, especially one that is regarded as outside the norm or mainstream
25. the speaker's dr__e *n.* a low continuous humming noise; someone who takes more time than necessary; a pilot-less aerial vehicle that is operated by remote control
26. pr_____er design *n.* a device with rotating blades or vanes used for propulsion or creating lift, typically used on boats or aircraft
27. comment with an____ty *n.* the condition of being anonymous or unidentified; the state of not revealing one's name, identity, or other personal information

ANSWERS: 20. infer, 21. entangle, 22. centimeter, 23. triangulation, 24. sect, 25. drone, 26. propeller, 27. anonymity

28. oxygenic pho_____sis *n.* the process through which plants and other organisms transform light energy into chemical energy, which is then released through cellular respiration to power the organism's activities.
29. sma_____ne addict *n.* a mobile phone that functions as a computer and connects to the Internet
30. hi_____am distribution *n.* a graphical representation of data that shows the distribution of values in a set or group typically displayed as a series of bars of varying heights or widths
31. ho_____ee colony *n.* a type of bee that is known for producing honey and pollinating flowers
32. premature mal_____hed infant *adj.* not getting enough of the right type of food to stay healthy and strong
33. dr__e flight *n.* a low continuous humming noise; someone who takes more time than necessary; a pilot-less aerial vehicle that is operated by remote control
34. in__r quality from price *v.* to form an opinion or conclude that something is true based on existing facts
35. en_____le in wires *v.* to become twisted or knotted together, especially in a way that makes it difficult to separate them; to involve in something complicated or difficult to escape
36. co_____te closely with the quality *v.* to have a connection or relationship in which one thing affects or depends on another

ANSWERS: 28. photosynthesis, 29. smartphone, 30. histogram, 31. honeybee, 32. malnourished, 33. drone, 34. infer, 35. entangle, 36. correlate

37. uns_____red information *adj.* not having a clear organization or arrangement
38. uns_____red text *adj.* not having a clear organization or arrangement
39. thrown out into mi___r *n.* some point in the air; above ground level
40. mi__c numerous instruments *v.* to imitate someone's speech, movement, or behavior, especially to make others laugh
41. jazz imp_____ion *n.* the act of making something up on the spot or creating or performing something without preparation
42. sma_____ne app developer *n.* a mobile phone that functions as a computer and connects to the Internet
43. or_____d tree *n.* a piece of land that is planted with fruit trees, such as apples, pears, or cherries
44. ag_____ic position *n.* a person who believes that it is impossible to know whether there is a god
45. ap_____d his courage *v.* to express approval of someone or something by clapping the hands
46. imp_____ion on stage *n.* the act of making something up on the spot or creating or performing something without preparation
47. pr_____er aircraft *n.* a device with rotating blades or vanes used for propulsion or creating lift, typically used on boats or aircraft
48. planetary el_____e *n.* a closed curve with a shape resembling a stretched circle; in geometry, a figure formed by the intersection of a cone with a plane, where the plane cuts through both halves of the cone

ANSWERS: 37. unstructured, 38. unstructured, 39. midair, 40. mimic, 41. improvisation, 42. smartphone, 43. orchard, 44. agnostic, 45. applaud, 46. improvisation, 47. propeller, 48. ellipse

49. hi_____am chart *n.* a graphical representation of data that shows the distribution of values in a set or group typically displayed as a series of bars of varying heights or widths
50. mi__c a human voice *v.* to imitate someone's speech, movement, or behavior, especially to make others laugh
51. a sw__m of mosquitoes *n.* a group of many things, such as insects, fishes, etc., in the air or water or on the ground
52. rec_____ble landmark *adj.* easy to become aware of or identify
53. cu_____te relationships *v.* to prepare and foster land for growing crops or plants
54. in_____a resistance *n.* the quality or state of being inactive, sluggish, or slow to move or act
55. ch_____is diagnosis *n.* a condition in plants characterized by the yellowing or whitening of leaf tissue caused by the insufficient production or impaired function of chlorophyll
56. dis_____le pattern *adj.* able to be perceived or recognized; clear or distinguishable
57. locust sw__m *n.* a group of many things, such as insects, fishes, etc., in the air or water or on the ground
58. on_____d the new employees *v.* to become or make part of a team, group, or system; to install, activate, or begin using a piece of equipment or software; (adjective) included or integrated into a particular system, machine, or device

ANSWERS: 49. histogram, 50. mimic, 51. swarm, 52. recognizable, 53. cultivate, 54. inertia, 55. chlorosis, 56. discernible, 57. swarm, 58. onboard

59. cen_____er measurement *n.* a unit of measurement of length in the metric system, equivalent to one-hundredth of a meter
60. lack of dis_____le progress *adj.* able to be perceived or recognized; clear or distinguishable
61. environmental det_____nt *n.* a factor, circumstance, or condition that contributes to the shaping, influencing, or determining of a particular outcome or result
62. process of pho_____sis *n.* the process through which plants and other organisms transform light energy into chemical energy, which is then released through cellular respiration to power the organism's activities.
63. c__w marks *n.* a curved, pointed appendage found on the foot or leg of an animal, used for gripping or grasping; a human hand with long, narrow fingers that are curved like a claw; a machine or tool with a claw-like opening used for gripping or lifting objects
64. traditional me_____al *adj.* of or relating to the treatment or cure of disease
65. protect an_____ty *n.* the condition of being anonymous or unidentified; the state of not revealing one's name, identity, or other personal information
66. ap_____d the orchestra *v.* to express approval of someone or something by clapping the hands
67. on_____d computer *v.* to become or make part of a team, group, or system; to install, activate, or begin using a piece of equipment or software; (adjective) included or integrated into a particular system, machine, or device

ANSWERS: 59. centimeter, 60. discernible, 61. determinant, 62. photosynthesis, 63. claw, 64. medicinal, 65. anonymity, 66. applaud, 67. onboard

68. political ma_____ers *n.* a motion or combination of moves that requires skill and care; a clever strategy, activity, or movement intended to give someone an advantage
69. c__w hammer *n.* a curved, pointed appendage found on the foot or leg of an animal, used for gripping or grasping; a human hand with long, narrow fingers that are curved like a claw; a machine or tool with a claw-like opening used for gripping or lifting objects
70. cu_____te a field *v.* to prepare and foster land for growing crops or plants
71. a det_____nt of crop yields *n.* a factor, circumstance, or condition that contributes to the shaping, influencing, or determining of a particular outcome or result
72. aggressive ho_____ee *n.* a type of bee that is known for producing honey and pollinating flowers

ANSWERS: 68. maneuver, 69. claw, 70. cultivate, 71. determinant, 72. honeybee

Session 3: Fill in the Blanks

1. He used the _____ equation to calculate the dimensions of the oval-shaped garden.
 - n.* a closed curve with a shape resembling a stretched circle; in geometry, a figure formed by the intersection of a cone with a plane, where the plane cuts through both halves of the cone

2. The _____ data took a lot of work to analyze and interpret.
 - adj.* not having a clear organization or arrangement

3. The passengers were instructed to _____ the aircraft as quickly as possible so that the flight could depart on time.
 - v.* to become or make part of a team, group, or system; to install, activate, or begin using a piece of equipment or software; (adjective) included or integrated into a particular system, machine, or device

4. The data was organized into a _____ to show the frequency of occurrence of each value.
 - n.* a graphical representation of data that shows the distribution of values in a set or group typically displayed as a series of bars of varying heights or widths

5. University is a great place to _____ our minds and expertise.
 - v.* to prepare and foster land for growing crops or plants

6. _____ children are at risk of developmental delays and chronic health problems.
 - adj.* not getting enough of the right type of food to stay healthy and strong

7. He is very popular at school because he can _____ all the teachers' accents.
 - v.* to imitate someone's speech, movement, or behavior, especially to make others laugh

ANSWERS: 1. ellipse, 2. unstructured, 3. onboard, 4. histogram, 5. cultivate, 6. Malnourished, 7. mimic

8. A _____ of angry bees attacked because we had approached the hive.
n. a group of many things, such as insects, fishes, etc., in the air or water or on the ground
9. Her scientific background led her to be _____ about the existence of a higher power.
n. a person who believes that it is impossible to know whether there is a god
10. In _____ plants use carbon dioxide to feed themselves.
n. the process through which plants and other organisms transform light energy into chemical energy, which is then released through cellular respiration to power the organism's activities.
11. The boat's _____ stopped working in the middle of the lake.
n. a device with rotating blades or vanes used for propulsion or creating lift, typically used on boats or aircraft
12. The botanist suggested that the _____ in the elm tree might result from overwatering.
n. a condition in plants characterized by the yellowing or whitening of leaf tissue caused by the insufficient production or impaired function of chlorophyll
13. The object's _____ kept it moving in a straight line until acted upon by an outside force.
n. the quality or state of being inactive, sluggish, or slow to move or act
14. He heard a _____ of sirens roar from the neighboring town.
n. a low continuous humming noise; someone who takes more time than necessary; a pilot-less aerial vehicle that is operated by remote control

ANSWERS: 8. swarm, 9. agnostic, 10. photosynthesis, 11. propeller, 12. chlorosis, 13. inertia, 14. drone

15. The _____ hive is organized into a caste system, with a queen, drones, and workers.
- n.* a type of bee that is known for producing honey and pollinating flowers
16. There was a _____ change in the atmosphere when the boss walked into the room.
- adj.* able to be perceived or recognized; clear or distinguishable
17. I enthusiastically _____ my rival's achievement.
- v.* to express approval of someone or something by clapping the hands
18. He created a beautiful piece of music using only _____.
- n.* the act of making something up on the spot or creating or performing something without preparation
19. Animal desire and preference are always _____ from their behavior.
- v.* to form an opinion or conclude that something is true based on existing facts
20. The room was only one _____ wider than the piano, making it a tight fit.
- n.* a unit of measurement of length in the metric system, equivalent to one-hundredth of a meter
21. The archaeologists used GPS _____ to accurately map the ancient ruins.
- n.* the process of determining the location or position of something, such as an object, place, or point, by measuring the angles or distances between multiple reference points or landmarks
22. One _____ of success is having a positive attitude and a strong work ethic.
- n.* a factor, circumstance, or condition that contributes to the shaping, influencing, or determining of a particular outcome or result

ANSWERS: 15. honeybee, 16. discernible, 17. applaud, 18. improvisation, 19. inferred, 20. centimeter, 21. triangulation, 22. determinant

23. She flawlessly performed a _____ somersault.

n. some point in the air; above ground level

24. The _____ properties of this herb have been known to help with various ailments.

adj. of or relating to the treatment or cure of disease

25. Internet traffic volumes have increased significantly with the advent of _____.

n. a mobile phone that functions as a computer and connects to the Internet

26. His car was easily _____ in the parking lot.

adj. easy to become aware of or identify

27. He made a desperate effort to _____ an airliner.

v. to seize control of an airplane or other vehicle during an operation, especially with violence

28. The discovery of a critical bug caused the company to delay the _____ release.

n. (abbreviation for application) software designed to run on smartphones and other mobile devices or inside a web browser on a PC

29. The farmer owns an _____ where he grows apples, pears, and plums.

n. a piece of land that is planted with fruit trees, such as apples, pears, or cherries

30. We may frequently _____ age with the frequency of disease.

v. to have a connection or relationship in which one thing affects or depends on another

ANSWERS: 23. midair, 24. medicinal, 25. smartphones, 26. recognizable, 27. hijack, 28. app's, 29. orchard, 30. correlate

31. In this class, we learn the basic _____ of the plane.

n. a motion or combination of moves that requires skill and care; a clever strategy, activity, or movement intended to give someone an advantage

32. The vines of the plant _____ themselves around the trellis.

v. to become twisted or knotted together, especially in a way that makes it difficult to separate them; to involve in something complicated or difficult to escape

33. The minority _____ believed in a set of unconventional religious practices.

n. a group of people who follow a particular religious or philosophical belief system, especially one that is regarded as outside the norm or mainstream

34. The bear used its _____ to catch a fish in the river.

n. a curved, pointed appendage found on the foot or leg of an animal, used for gripping or grasping; a human hand with long, narrow fingers that are curved like a claw; a machine or tool with a claw-like opening used for gripping or lifting objects

35. The use of pseudonyms allows individuals to maintain their _____ online.

n. the condition of being anonymous or unidentified; the state of not revealing one's name, identity, or other personal information

36. The _____ of light and shadow creates a dramatic effect in the painting.

n. the way in which two or more things interact or influence each other

ANSWERS: 31. maneuver, 32. entangled, 33. sect, 34. claw, 35. anonymity, 36. interplay