bottles are filled with ordinary tap water, the disadvantages of ordinary tap water remain. For example, some people do not like the taste of tap water. Also, certain tap water contains contaminants or impurities. Some people may install complex or sizeable water filtering systems in their home or office to permit to pre-filtering the water before pouring it into a reusable bottle. However, if the user does not have access to such a complex or sizeable system, the user may not have access to pre-filtered water.

[0006] To facilitate the filtering process, some reusable bottles have been adapted to include a water filter. A common type of water filter includes a filter element positioned at the inlet of the drinking tube such that as the user draws water into the drinking tube, the water is drawn through the filter and into the tube for drinking. Such known water bottle filters may require that the user exert sufficient sucking force to draw the water through the filter. The user may tire this action and possibly drink less water. Also, because the water is not filtered until the user starts drawing the water out, the filtration process may slow the rate at which the water exits the bottle possibly such that the water flow is not continuous, which may frustrate the user.

[0007] There is a need for a unitary system and methods for treating and consuming a beverage that does not require the user to draw the water through the filter while drinking. At least certain embodiments of the present invention satisfy this need.

SUMMARY OF THE INVENTION

[0008] Certain embodiments of the present invention include a beverage filtering or beverage treatment system having at least a bottle body, a lid, a beverage filtering or treatment or conditioning or improvement component, and a passageway component.

[0008a] According to a first aspect of the present invention, there is provided a beverage bottle system, comprising: a bottle body defining a beverage compartment within the bottle body and a body mouth; a filter disposed in the beverage compartment of the bottle body thereby separating the beverage compartment into a filtered beverage compartment and an unfiltered beverage compartment; a transfer tube extending from the filtered beverage compartment approximately to the body mouth, the transfer tube passing through the

unfiltered beverage compartment without being in fluid communication with the unfiltered beverage compartment; and a lid fastenable onto the bottle body thereby generally covering the body mouth, the lid including a drinking opening defined by a drinking edge, the drinking opening being in fluid communication with the filtered beverage compartment via the transfer tube so that filtered beverage from the filtered beverage compartment may flow from the filtered beverage compartment and out of the drinking opening through the transfer tube when the lid is fastened onto the bottle body.

[0008b] According to a second aspect of the present invention, there is provided a beverage bottle system, comprising: a bottle body defining a beverage compartment and a body mouth, the bottle body including a supporting surface; a filter disposed in the beverage compartment of the bottle body so as to separate the beverage compartment into a filtered beverage compartment and an unfiltered beverage compartment, the unfiltered beverage compartment being disposed above the filtered beverage compartment when the bottle body is supported on the supporting surface, wherein the filter is configured to allow a beverage within the unfiltered beverage compartment to flow by a force of gravity through the filter and into the filtered beverage compartment; a transfer tube extending from the filtered beverage compartment approximately to the body mouth and configured to provide fluid communication between the filtered beverage compartment and a drinking opening, the transfer tube extending generally from a bottom of the unfiltered beverage compartment to a top of the unfiltered beverage compartment when the bottle body is supported on the supporting surface without being in fluid communication with any beverage in the unfiltered beverage compartment; and a lid fastenable onto the bottle body, the lid defining the drinking opening, the drinking opening being in fluid communication to the transfer tube so that filtered beverage from the filtered beverage compartment may flow from the filtered beverage compartment, through the transfer tube and out of the drinking opening.

[0008c] According to a third aspect of the present invention, there is provided a beverage bottle system, comprising: a bottle body defining an beverage compartment and a body mouth; a filter holder disposed in the beverage compartment of the bottle body so as to separate the beverage compartment into a filtered beverage compartment and an unfiltered beverage compartment; a filter in the filter holder, one of the filter and the filter holder

including a projecting lip in contact with the other of the filter and the filter holder so as to form a fluid tight seal between the filter and the filter holder; a transfer tube extending from the filtered beverage compartment approximately to the body mouth to provide fluid communication with the filtered beverage compartment, the transfer tube passing through the unfiltered beverage compartment without being in fluid communication with the unfiltered beverage compartment; and a lid fastenable onto the bottle body, the lid defining a drinking opening, the drinking opening being in fluid communication to the transfer tube so that filtered beverage from the filtered beverage compartment may flow from the filtered beverage compartment through the transfer tube and out of the drinking opening.

[0008d] According to a fourth aspect of the present invention, there is provided a beverage bottle system, comprising: a bottle body defining an interior beverage compartment and a body mouth, the bottle body including a supporting surface; a beverage treatment element disposed in the beverage compartment of the bottle body so as to separate the beverage compartment into a treated beverage compartment and an untreated beverage compartment, the untreated beverage compartment being disposed above the treated beverage compartment when the bottle body is standing with the supporting surface resting on a substantially horizontal surface, wherein the beverage treatment element is configured to allow a beverage within the untreated beverage compartment to flow by a force of gravity through the beverage treatment element and into the treated beverage compartment;
a transfer tube extending from the treated beverage compartment approximately to the body mouth to provide fluid communication with the treated beverage compartment, the transfer tube extending from a bottom of the untreated beverage compartment to a top of the untreated beverage compartment without being in fluid communication with the untreated beverage compartment; and a lid fastenable onto the bottle body, the lid defining a drinking opening, the drinking opening being in fluid communication with the transfer tube so that conditioned beverage from the treated beverage compartment may flow from the treated beverage compartment through the transfer tube and out of the drinking opening.

[0008e] According to a fifth aspect of the present invention, there is provided a method for filtering a beverage, comprising: containing an unfiltered beverage in an

unfiltered beverage compartment of a bottle system; filtering the unfiltered beverage by force of gravity through a filter mounted within the bottle system to obtain a filtered beverage; containing the filtered beverage in a filtered beverage compartment of the bottle system, the filtered beverage compartment sharing a common housing with the unfiltered beverage compartment and being separated from the unfiltered beverage compartment by the filter; and dispensing the filtered beverage from the filtered beverage compartment to a dispensing opening of the bottle system via a transfer tube that extends through the unfiltered beverage compartment.

[0009] A bottle body may be configured to contain a liquid substance, such as a beverage, one example of which is water. A bottle body may be sized and shaped to be portable such that a user can easily carry it around for convenient personal access. Certain embodiments of a bottle body include a bottom body wall and a side body wall. Generally, the bottom body wall and the side body wall define an interior space, which may be further subdivided into compartments. The lower end of the side body wall may be connected to the

40. A beverage bottle system as claimed in any one of claims 1 to 39, further comprising:

a UV light sterilizer unit configured for attachment to the bottle body and operable to emit UV light into the filtered beverage compartment of the bottle body.

41. A beverage bottle system as claimed in any one of claims 1 to 40, further comprising:

an air recirculating channel structured to provide an air passageway between the filtered beverage compartment and the unfiltered beverage compartment.

42. A beverage bottle system as claimed in claim 41, wherein the lid defines a vent opening to the beverage compartment, and wherein the air recirculating channel is connected in fluid communication with the transfer tube and the vent opening, and further comprising:

a vent valve in fluid communication with the air recirculating channel, the vent valve being structured to permit air to flow from the filtered beverage compartment to the unfiltered beverage compartment and to block fluid flow from the unfiltered beverage compartment to the filtered beverage compartment.

~~43. A filter for a system having a bottle body and a filter holder mounted within the bottle body, the filter holder dividing an interior space of the bottle body into an unfiltered beverage compartment and a filtered beverage compartment, the system also having a transfer tube connected to an approximate center of the filter holder, the filter comprising:~~

~~one of a filter element and a filter cartridge having an outer substantially cylindrical wall configured to fit into the filter holder, the one of the filter element and the filter cartridge having an inner substantially cylindrical wall configured to fit around a portion of the transfer tube, the one of the filter element and the filter cartridge including filter media for filtering a beverage flowing therethough.~~

~~44. A filter as claimed in claim 43, wherein the inner substantially cylindrical wall is substantially coaxial with the outer substantially cylindrical wall.~~

~~45. A filter as claimed in claim 43 or 44, wherein the filter element comprises a biodegradable material.~~

~~46. A filter as claimed in any one of claims 43 to 45, wherein the one of the filter element and the filter cartridge comprises:~~
~~first and second perforate walls extending between the inner substantially cylindrical wall and the outer substantially cylindrical wall, the one of the filter element and the filter cartridge defining an interior filter space within which is disposed the filter media.~~

~~47. A filter as claimed in claim 46, wherein the filter cartridge comprises a biodegradable material.~~

~~48~~43. A beverage bottle system, comprising:

a bottle body defining a beverage compartment and a body mouth, the bottle body including a supporting surface;

a filter disposed in the beverage compartment of the bottle body so as to separate the beverage compartment into a filtered beverage compartment and an unfiltered beverage compartment, the unfiltered beverage compartment being disposed above the filtered beverage compartment when the bottle body is supported on the supporting surface, wherein the filter is configured to allow a beverage within the unfiltered beverage compartment to flow by a force of gravity through the filter and into the filtered beverage compartment;

a transfer tube extending from the filtered beverage compartment approximately to the body mouth and configured to provide fluid communication between the filtered beverage compartment and a drinking opening, the transfer tube extending generally from a bottom of the unfiltered beverage compartment to a top of the unfiltered beverage compartment when the bottle body is supported on the supporting surface without being in fluid communication with any beverage in the unfiltered beverage compartment; and

a lid fastenable onto the bottle body, the lid defining the drinking opening, the drinking opening being in fluid communication to the transfer tube so that filtered beverage from the filtered beverage compartment may flow from the filtered beverage compartment, through the transfer tube and out of the drinking opening.

~~49~~44. A beverage bottle system as claimed in claim ~~48~~43, wherein the bottle body is substantially cylindrical with the body mouth at a first end and the supporting surface at a second end.

~~50~~45. A beverage bottle system as claimed in claim ~~48~~43 or ~~49~~44, wherein the transfer tube extends substantially through a center of the unfiltered beverage compartment.

~~51~~46. A beverage bottle system, comprising:

a bottle body defining an beverage compartment and a body mouth;

a filter holder disposed in the beverage compartment of the bottle body so as to separate the beverage compartment into a filtered beverage compartment and an unfiltered beverage compartment;

a filter in the filter holder, one of the filter and the filter holder including a projecting lip in contact with the other of the filter and the filter holder so as to form a fluid tight seal between the filter and the filter holder;

a transfer tube extending from the filtered beverage compartment approximately to the body mouth to provide fluid communication with the filtered beverage compartment, the transfer tube passing through the unfiltered beverage compartment without being in fluid communication with the unfiltered beverage compartment; and

a lid fastenable onto the bottle body, the lid defining a drinking opening, the drinking opening being in fluid communication to the transfer tube so that filtered beverage from the filtered beverage compartment may flow from the filtered beverage compartment through the transfer tube and out of the drinking opening.

~~52~~47. A beverage bottle system as claimed in claim ~~51~~46, wherein the filter comprises:

a filter cartridge configured to be held by the filter holder and defining an interior space; and

a filter media disposed in the interior space of the filter cartridge.

~~53~~48. A beverage bottle system as claimed in claim ~~51~~46 or ~~52~~47, wherein the filter comprises a cylindrical outer wall in contact with the filter holder, and a cylindrical inner wall defining an opening through which extends the transfer tube.

~~54~~49. A beverage bottle system, comprising:

a bottle body defining an interior beverage compartment and a body mouth, the bottle body including a supporting surface;

a beverage treatment element disposed in the beverage compartment of the bottle body so as to separate the beverage compartment into a treated beverage compartment and an untreated beverage compartment, the untreated beverage compartment being disposed above the treated beverage compartment when the bottle body is standing with the supporting surface resting on a substantially horizontal surface, wherein the beverage treatment element is configured to allow a beverage within the untreated beverage compartment to flow by a force of gravity through the beverage treatment element and into the treated beverage compartment;

a transfer tube extending from the treated beverage compartment approximately to the body mouth to provide fluid communication with the treated beverage compartment, the transfer tube extending from a bottom of the untreated beverage compartment to a top of the untreated beverage compartment without being in fluid communication with the untreated beverage compartment; and

a lid fastenable onto the bottle body, the lid defining a drinking opening, the drinking opening being in fluid communication with the transfer tube so that conditioned beverage from the treated beverage compartment may flow from the treated beverage compartment through the transfer tube and out of the drinking opening.

~~55~~50. A beverage bottle system as claimed in claim ~~54~~49, wherein the beverage treatment element is at least one of a beverage filter, a flavor enhancer, a sweetener, a vitamin release element, a color release element, and a particle release element.

~~56~~51. A method for filtering a beverage, comprising:

containing an unfiltered beverage in an unfiltered beverage compartment of a bottle system;

filtering the unfiltered beverage by force of gravity through a filter mounted within the bottle system to obtain a filtered beverage;

containing the filtered beverage in a filtered beverage compartment of the bottle system, the filtered beverage compartment sharing a common housing with the unfiltered beverage compartment and being separated from the unfiltered beverage compartment by the filter; and

dispensing the filtered beverage from the filtered beverage compartment to a dispensing opening of the bottle system via a transfer tube that extends through the unfiltered beverage compartment.